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MARCH, 1954

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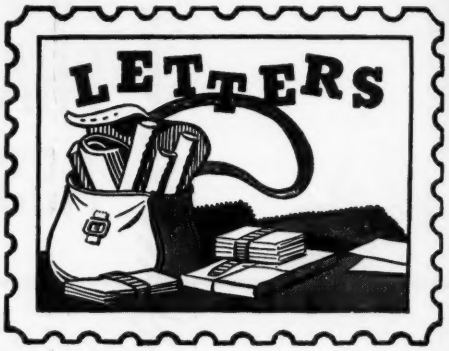

Puerto Rico Branch Condemns Attack

The following letter has been received from the Puerto Rico Branch of the A.PH.A.:

Dear Dr. Fischelis:

The following is the text of the telegram sent to President Eisenhower and Speaker Martin on March 1, expressing our sentiments:

> PUERTO RICO BRANCH AMERICAN PHARMACEUTICAL ASSOCIATION CONDEMNS FANATICAL CRIMINAL ACTIONS NATIONALISTS HOUSE CHAMBER YESTERDAY. DESIRE RAPID RECOVERY WOUNDED CONGRESSMEN.
>
> ADOLFO LEGRAND, PRESIDENT
> LEO LATHROUM, SECRETARY

We wish to assure you that this was the action of a few misguided and fanatical people and does not represent the sentiment of the Puerto Rican people.

Sincerely yours,

ADOLFO LEGRAND, *President*
LEO B. LATHROUM, *Secretary*

Mr. Adolfo Legrand, *President,*
Puerto Rico Branch, A.PH.A.

Dear Mr. Legrand:

Thank you for your letter of March 2 containing a copy of the message which your Branch sent to President Eisenhower and Speaker Martin. I am sure that your message was appreciated by the President and the Speaker of the House of Representatives.

We are glad to know that our Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION in the Territory of Puerto Rico has taken note of the unfortunate incident and condemns those who are responsible for it.

With best wishes, I am

Sincerely,

ROBERT P. FISCHELIS, *Secretary*

now desensitize

more patients

more successfully

with *new*

ChlorTriMeton injection "100"

in the same syringe

as your allergenic extract

Doses of 5 to 10 mg.—just .05 to 0.1 cc.

① Higher doses of allergen tolerated

② Fewer treatments than previously required

③ Constitutional and local reactions markedly reduced

④ Per cent of successfully managed cases increased

Outstanding in Treatment, too

Weeping eczemas, poison ivy dermatitis, urticaria, angioedema and allergic rhinitis.

CHLOR-*TRIMETON Injection "100"*

2 cc. multiple-dose vials containing 100 mg./cc.

CHLOR-*TRIMETON*® Maleate, brand of chlorprophenpyridamine maleate.

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℞ information service

Members of the American Pharmaceutical Association are invited to submit their professional problems to The Journal, 2215 Constitution Ave., N. W., Washington 7, D. C., giving all pertinent details in your first letter.

Codeine, Pyranisamine, and Amphetamine Solutions

Are conventional solutions (aqueous) of codeine phosphate and pyranisamine (pyrilamine) maleate (aqueous) also amphetamine (aqueous) stable over a long length of time? Do you know of a book recommending proper buffer agents?—W. G. O., Cloverdale, Calif.

It is assumed that "conventional solutions" means solutions of the solutes in distilled water. The codeine phosphate and pyranisamine maleate, and the salts of amphetamine form acid solutions in water. If the acid state is not disturbed by the alkalinity of the glass (if a glass container is used) and if the solutions are protected against air and light, they should be fairly stable. Addition of an antibacterial agent is helpful. The exact period of their stability under the conditions you intend can be determined by preparing the solutions and observing them yourself. Periodic assays of the solutions would be informative.

The U. S. P. XIV, p. 971, gives directions for the preparation of buffer solutions. Hind and Szekely [THIS JOURNAL, **14,** 644(1953)] give a number of buffers particularly suited for ophthalmic solutions. Modern pharmacy textbooks discuss buffer solutions as they apply to pharmaceutical products.

Chlorobutanol Solution for Ophthalmic Preparations

Can you supply information as to the proper method of making a 0.5 per cent solution of chlorobutanol for use as a preservative for ophthalmic solutions? The slow solubility and rapid sublimation of this drug have led us to question the strength of the solution after it is prepared.—K. W., Memphis, Tenn.

The usual procedure for direct dispersion of chlorobutanol in water is to heat the water, then add the chlorobutanol and agitate vigorously in a closed container until the solution is formed.

If the presence of about 12 per cent of glycerin is not objectionable in the ophthalmic solutions, a stock solution of chlorobutanol in glycerin (5 Gm. in 100 cc.) can be prepared. Ten cc. of the stock solution diluted with sterile distilled water to 100 cc. would make a solution containing 0.5 Gm. of chlorobutanol and about 12 Gm. of glycerin in 100 cc.

Other antibacterial agents for ophthalmic solutions were discussed in papers that appeared recently in THIS JOURNAL, **14,** 498, 644(1953); THIS JOURNAL, *Sci. Ed.*, **42,** 584(1953).

Ophthalmic Acetate Buffer—Additional Note

The formula for ophthalmic acetate buffer of the Accepted Florida Formulary as it appeared in THIS JOURNAL, **14,** *614 (Oct., 1953) is a hypertonic solution.—D. P., Summit, N. J.*

The formula as published is correct. However, the direction, *"Sig.: Use in eyes as directed,"* is misleading and it has now been deleted from the Accepted Florida Formulary. Ophthalmic acetate buffer F. F. is intended only as a buffering agent in other solutions, and it should not be used in the eyes without dilution.

Powdered Silica

Do you have a reference to a "finely powdered silica" for pharmaceutical use? How is silica used in powder formulations? What effect does powdered silica have on wound healing?—C. J. L., Midland, Mich.

A fine silica for pharmaceutical use is reported by R. Barta and Vl. Satava (Prague, Czech.), *Chem. Prumysl,* **1** (26), 282(1951); through *Chem. Abstr.,* **46,** 9792*e*(1952). A substitute for fissan-colloid (SiO_2 of 1–100 microns particle size, containing 5% of adsorbed fluorine) (*cf.* U. S. Patent 2,059,811, *Chem. Abstr.,* **31,** 507[1]) is discussed.

R. G. Harry, "Modern Cosmeticology," 1947, pp. 124–125, Chemical Publishing Co., Inc., Brooklyn, N. Y., states: "A very fine grade of pure silica has been introduced for cosmetic purposes. It is claimed that the use of this substance obviates the need for zinc and magnesium stearates. The addition of 10 per cent to an ordinary powder mix exerts a marked effect in increasing its fluffiness. Up to 20 per cent may be used in a face powder, or 30 per cent or more in talcum and baby powders. *While there is no clinical evidence to prove or disprove its value I should hesitate to recommend it until we know more of the causes of silicosis.*"

Colloidal silicic acid powder in pharmaceuticals is reported by G. Grundmann, *Zentr. Chir.,* **75,** 158 (1950); *Chem. Zentr.,* 1950, I, 2375; through *Chem. Abstr.,* **46,** 11444*a*(1952). Siliphen—a powder consisting of crystalline, mineral, and colloidal silicic acid (hydrated silica). Ulcusept—an ointment activated by ultraviolet irradiation and containing vitamins A and F and colloidal SiO_2. These preparations are used to aid the healing of wounds.

(Continued on page 182)

PHOTOGRAPH BY RUZZI GREEN

For little patients... and big ones, too

PENALEV.

SOLUBLE TABLETS POTASSIUM PENICILLIN G

ACTIONS AND USES: Dissolved in a small amount of liquid, PENALEV Tablets make oral penicillin therapy acceptable to small patients who won't swallow tablets. And they also make penicillin dosage easy to regulate in adult patients. PENALEV Tablets are effective in all infections which may be treated with oral penicillin. Also useful for aerosol therapy and prescription compounding.

DOSAGE: According to the type and severity of the infection.

SUPPLIED: In three dosage strengths—50,000, 100,000 and 250,000 unit tablets in vials of 12 and bottles of 100.

This advertisement is appearing in current medical journals as part of Sharp & Dohme's promotion to the profession.

NEW PRESCRIPTION PRODUCTS

All items on which information has been received in the past thirty days are reported here. Manufacturers are urged to send details of their new products as early as possible, so that pharmacists through these pages, will have full information at the same time, or even before products are detailed to the physician. For inclusion in this free editorial department, send descriptive literature to the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, *2215 Constitution Avenue, N. W., Washington, D. C. Where possible, all descriptions should follow the style shown on these pages.*

Bejectal with Vitamin C

Description: Six injectable vitamins in a two-compartment sterile vial (Univial). Applying pressure on the top stopper dislodges a plug separating lyophilized solids in one compartment and the diluent in the other. After shaking until the solids are dissolved, pierce the stopper with needle of syringe and withdraw the desired dose. A 10-cc. vial contains: thiamine hydrochloride, 200 mg.; riboflavin, 30 mg.; vitamin B_{12}, 20 mcg.; nicotinamide, 750 mg.; pyridoxine hydrochloride, 50 mg.; ascorbic acid, 1 Gm.; sodium pantothenate, 50 mg.; with 3,4-dimethoxybenzyl alcohol, 1.96% and benzyl alcohol, 0.78% as preservatives.

Administration: For intravenous or deep intramuscular injection.

Dosage: One cc. supplies a minimal daily therapeutic dose. In cases of severe vitamin deficiency 2-cc. doses should be given.

Form Supplied: In 10-cc. size Univial, singly and in boxes of 5.

Source: Abbott Laboratories, North Chicago, Ill.

Buthoid Suppositories

Description: Each suppository contains 0.5 Gm. of Butaphyllamine (theophylline aminoisobutanol) in a hydrophilic base.

Indications: For treatment of congestive heart failure, coronary insufficiency with or without anginal syndrome, and bronchial asthma.

Administration: One suppository rectally every eight hours, or only one at bedtime as needed in less severe cases.

Form Supplied: Package of 12 suppositories.

Source: Wm. S. Merrell Company, Cincinnati, Ohio.

Cortril Tablets

Description: Each tablet contains 20 mg. of hydrocortisone (compound F).

Indications: Control of symptoms of collagen diseases such as rheumatoid arthritis and bursitis.

Administration: Orally as prescribed.

Form Supplied: Bottles of 20 tablets.

Source: Pfizer Laboratories, Div. of Chas. Pfizer and Co., Inc., Brooklyn, N. Y.

Cortril with Terramycin Suspension

Description: An ophthalmic suspension containing in each cc. hydrocortisone (compound F), 15 mg.; with Terramycin (oxytetracycline), 5 mg.

Indications: For infections and traumatic inflammations of the eye.

Administration: Locally as prescribed.

Form Supplied: Bottles of 5 cc.

Source: Pfizer Laboratories, Div. of Chas. Pfizer and Co., Inc., Brooklyn, N. Y.

Duotrone Oral and Injectable

Description: Each oral or buccal tablet contains: (No. 5) methyltestosterone, 5.0 mg.; ethinyl estradiol, 0.02 mg.; (No. 10) methyltestosterone, 10.0 mg.; ethinyl estradiol, 0.04 mg. The injection contains 2.2 mg. of estrogenic substance to every 25.0 mg. of testosterone.

Indications: To supply balanced estrogenic and androgenic activity.

Administration: Menopausal symptoms—2 to 4 No. 5 tablets or 1 to 2 No. 10 tablets daily; 0.5 cc. of the injection twice weekly is equivalent to one No. 10 buccal tablet daily. Osteoporosis and in geriatrics—1 to 2 No. 5 tablets daily.

Form Supplied: Tablets—bottles of 30 and 100; injection—10-cc. vial.

Source: U. S. Standard Products Co., Woodworth, Wis.

Elixir Gerix (Geriatric Elixir)

Description: A wine-flavored, appetite stimulant and nutritional supplement.

Indications: Provides balanced amounts of important nutritional elements including the B-complex factors and iron. It contains 20% alcohol. Taken before meals, Gerix acts as a stomachic, increasing the desire for food.

Administration: One tablespoonful (15 cc.) twice daily, preferably before meals.

Form Supplied: Pint and gallon bottles.

Source: Abbott Laboratories, North Chicago, Ill.

Other New Products

(Chemicals, clinical trial drugs, diagnostic aids, and equipment for the retail and hospital pharmacy)

Achromycin—New Dosage Forms

Achromycin tablets have recently been marketed by *Lederle Laboratories Division, American Cyanamid Co.*, in addition to the capsules. The orange-colored tablets containing 250 mg. of Achromycin (tetracycline) are supplied in bottles of sixteen. The 250-mg. Achromycin capsules, originally available only in bottles of sixteen, are now being sold in bottles of 100. The 100- and 50-mg. sizes (sold in 25's), as well as the Spersoid and intravenous forms are also available.

Bichloracetic Acid Cervical Cauterization Unit

The "BA-CC" unit, supplied by *Kahlenberg Laboratories*, contains 2 ml. of bichloracetic acid, surgical, in a sealed glass ampul with all accessories for carrying out chemical cauterization of the cervix uteri. Each unit contains complete directions and is designed for disposal after one-time use. Bichloracetic acid cauterization is a method of treating cervical erosions and endocervicitis. It may also be used as a follow-up after thermo cauterization.

C-Reactive Protein Antiserum

Schieffelin and Company recently announced availability of C-Reactive Protein Antiserum (CRP Antiserum) on a commercial scale. It can be employed in hospitals and physicians' office practice to check on the presence of rheumatic fever, pneumococcal, streptococcal, staphylococcal, and similar bacterial infections. CRP tests show not only whether such infections are present, but indicate the degree of the inflammation, even when occurring only to a small extent. CRP Antiserum is valuable for determining correct dosage of such anti-inflammatory drugs as cortisone, ACTH, and salicylates.

Hydergine Sublingual Tablets

Sandoz Pharmaceuticals has recently introduced a new dosage form of Hydergine (hydrogenated ergot alkaloids) called Hydergine Sublingual Tablets. Hydergine was formerly available only in ampuls for intramuscular injection in the treatment of peripheral vascular diseases and hypertension. The tablets are supplied in bottles of 100, 500, and 1,000.

Pronemia Capsules

Pronemia antianemia vitamin capsules, containing purified intrinsic factor concentrate to increase absorption of B_{12} has been placed on the market by *Lederle Laboratories Division, American Cyanamid Company*. Each capsule contains: Vitamin B_{12}, 30 mcg.; ferrous sulfate exsiccated, 400 mg.; ascorbic acid (C), 150 mg.; powdered stomach, 200 mg.; folic acid, 4 mg.; and purified intrinsic factor concentrate, 10 mg. Pronemia capsules are indicated for the treatment of all treatable anemias, including pernicious anemia. Pronemia will be packaged in bottles of 30 and 100.

Skin Test Antigen for Mumps

An antigen, made from the allantoic fluid of chick embryos infected with mumps virus which may serve to indicate whether a patient is or is not immune to the disease, has been marketed recently by *Lederle Laboratories Division, American Cyanamid Company*. The antigen is injected into the skin of the forearm and a positive reaction will form a red wheal with a diameter of 15 mm. or more within forty-eight hours. A positive reaction, like the tuberculin skin test, indicates a past infection with the virus; but, unlike the tuberculin test, it indicates that the patient is now resistant to the virus. The test will not react positively until about two months after an attack of mumps. This means that if a person is tested shortly after exposure to mumps and reacts negatively, he has not had the disease in the past and is still susceptible. The skin test is supplied in 1-cc. ampuls along with another ampul of control fluid. Each 1-cc. vial of antigen is enough for ten tests.

Sucaryl Calcium Sweetener Powder—New Dosage Form

In addition to liquid and tablet Sucaryl, *Abbott Laboratories, Inc.*, is now offering Sucaryl Calcium Sweetener in powder form for persons who follow low-salt as well as low-sugar diets. Packaged in a 2-oz., sifter-top container, with moisture and leak-proof polyethylene cap.

Terpin Hydrate and Codeine Lozenges

For use as an expectorant and cough sedative, one lozenge is the equivalent dose of $^1/_2$ teaspoonful of terpin hydrate and codeine elixir. Pink in color and flavored, each lozenge contains codeine sulfate, 5 mg., and terpin hydrate, 50 mg. They are supplied by the *S. E. Massengill Company* in bottles of 100 and 500.

Tetracyn

Marketing of the new broad spectrum antibiotic tetracycline—under the trade name Tetracyn—has been announced by *J. B. Roerig and Company*, division of Chas. Pfizer and Company, Inc. First dosage forms currently being made available are sugar-coated tablets and a preparation for intravenous administration.

(See Index on page 139)

MILONTIN®

fills this gap

in treatment of epilepsy

petit mal epilepsy	✓	Milontin
grand mal epilepsy	✓	Dilantin®
psychomotor epilepsy	✓	Dilantin

NEW anticonvulsant for petit mal epilepsy

Current clinical reports demonstrate the effectiveness of MILONTIN in patients with petit mal epilepsy—up to now, often difficult to control. With MILONTIN and DILANTIN both available, physicians can now prescribe specific medication to meet the individual needs of virtually every epileptic patient.

MILONTIN® KAPSEALS® (Methylphenylsuccinimide, Parke-Davis), a drug of choice for petit mal epilepsy, was developed by the research laboratories of Parke, Davis & Company following 11 years of study and clinical investigation. It is available in 0.5 Gm. Kapseals in bottles of 100 and 1000.

MEDICAMENTA VERA · PD CO.

Parke, Davis & Company

DETROIT, MICHIGAN

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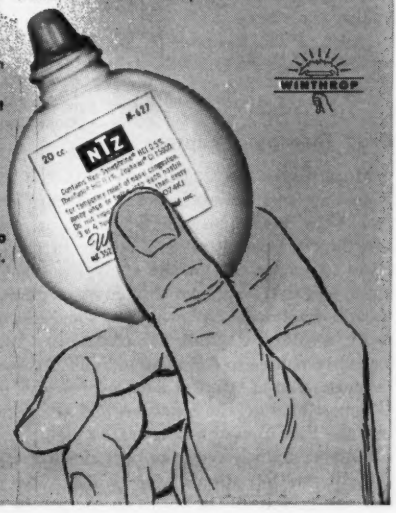

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RECENT

PROGRESS IN MEDICINE

Pooled Plasma with Little Risk of Homologous Serum Jaundice

Clinical experience with liquid pooled plasma stored at room temperature for at least six months before use shows that the material will not transmit homologous serum jaundice, according to a report by four Chicago physicians. No significant chemical alteration was noted in liquid pooled plasma kept at room temperature for thirty months; and this plasma was as useful in the prevention or treatment of shock or hypoproteinemia as freshly prepared liquid or dried plasma. After storage for six to nine months, when the virus activity has disappeared, liquid plasma can be lyophilized. This procedure has not been approved by the National Institutes of Health. The physicians state that while storage of liquid pooled plasma at room temperature provides a safe, simple, and inexpensive means for the preparation of plasma, this procedure is not adaptable to whole blood.

[Allen, J. G., Enerson, D. M., Barron, E. S. G., and Sykes, C., *J. Am. Med. Assoc.*, **154**, 103(Jan. 9, 1954).]

Drug Therapy in Leprosy

Modern treatment of leprosy with the sulfones is now one of the most important measures of control of the disease, according to a recent report by the Expert Committee on Leprosy of the World Health Organization of the U. N. Sulfone treatment is greatly superior to previous therapy although chaulmoogra oil is used by some as a supplement to sulfones. While the clinical and bacteriological responses to sulfone treatment are slow, the responses cannot be accelerated by increased dosage. It is possible that the usual doses of all the sulfones now used are already unnecessarily high.

Sulfones are believed to be bacteriostatic and thus prevent multiplication of the bacilli. The protective mechanisms of the body can control the less intense infection, but relapse is possible. Disubstituted, monosubstituted, and other sulfone derivatives have given good results, and no group nor one compound appears to be superior; although some patients respond better to one, and others to another compound. It was long believed that the parent sulfone drug, diaminodiphenyl sulfone (DDS), was too toxic for human use, but clinical experience during the last four years shows this is not so if the dose is suitably regulated. The following doses of DDS are now used for adults: 100–200 mg. orally once a day; 200–400 mg. orally twice a week; or 300–600 mg. orally once a week. Higher doses should not be used in routine treatment, and starting doses should be about one-fourth and should be increased gradually over several weeks to those given above.

p-Acetylaminobenzaldehyde thiosemicarbazone (TB I/698) is the most frequently used drug in the thiosemicarbazone group. Most reports of its value in leprosy have been favorable. It is sometimes better tolerated than the sulfones and causes fewer reactions; but it must be given once or twice a day, and there is greater possibility of liver damage, of acute agranulocytosis, and of drug fever. These effects are seen mainly during the first two months of treatment, and close medical attention is needed during that period. The thiosemicarbazones are considered unsuitable for large-scale or mass treatment.

Streptomycin has not yielded evidence to support its efficacy in the treatment of leprosy. More data are being accumulated on the value of streptomycin alone, and in combination with other drugs, in leprosy therapy. Isoniazid (isonicotinyl hydrazide) is being studied similarly.

Several reports have indicated that ACTH and cortisone can rapidly relieve or suppress acute and

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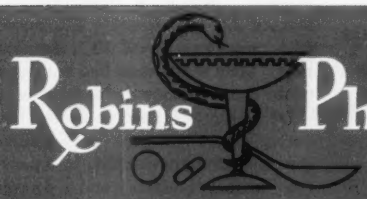

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**Morton, H. S. & Martin, W. S.: Rev. Gastroenterol. 20:37, 1953.*

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Progress in Medicine

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subacute manifestations of leprosy, such as neuritis or iritis; but the relief stops when the drugs are withheld, and some cases are aggravated. Instillation of cortisone drops into the eye, or subconjunctival injections, have been found of value in leprous eye inflammation, and injections into nerves in cases of severe neuritis have given relief.

Chemotherapy constitutes only part of the treatment of leprosy patients. Measures to control symptoms and to improve the general physical and mental condition of the patient are important. Various forms of local treatment of the lesions may be useful. Application of trichloracetic acid or dry ice to the skin lesions, or injections of mild irritant fluids, such as chaulmoogra or other oils, can accelerate the disappearance of some lesions or make them less obvious.

This summary of the use of drugs in the treatment of leprosy is included in a report on the disease that contains information on its epidemiology, control, treatment, classification, immunology, and the significance of histopathological examinations.

[Expert Committee on Leprosy, *World Health. Org. Techn. Rep. Ser.*, 1953, **71**, 1st report).]

Therapeutic Studies of Dermatologic Medication

Recent reports on the effects of dermatologic therapy include the following results:

(*a*) The topical use of a polymyxin-bacitracin ointment (Polysporin) effected satisfactory responses in 87 per cent of 429 patients with different types of skin lesions.

(*b*) Treatment of pyogenic skin infections with a tyrothricin-bacitracin ointment (Tyrotrace) gave 90 per cent cures; not much better than the cure ratio with ointments containing only one antibiotic. However, less than one per cent of the patients showed skin sensitization to Tyrotrace.

(*c*) Neomycin, a broad-spectrum antibiotic which is stable in aqueous vehicles, was used in the treatment of 126 patients with cutaneous bacterial infections and was applied to sites of electrocoagulation of epitheliomas, keratoses, verrucae (warts), etc., on 209 patients. The drug was incorporated in a lotion containing: neomycin sulfate 6 mg., butyl- and methyl-*p*-hydroxybenzoates (as moniliastatic agents), Tegacid Regular (glyceryl monosterate preparation, Goldschmidt Chemical Corporation emulsifying agent), polysorbate 80, spermaceti, and distilled water to make 120 cc. The lotion was effective in the treatment of cutaneous bacterial infections, and is of particular value in those due to hemolytic staphylococci. No sensitization reactions were noted in this series of patients.

(*d*) In a group of 29 patients with severe intractable pruritis ani, only 3 patients failed to derive lasting benefit from treatment with 2.5 per cent hydrocortisone acetate ointment (Hydrocortone Acetate, Topical Ointment) containing: hydrocortisone acetate 2.5, zinc stearate 6.3, polyethylene glycols 56.0, propylene glycol 30.7, distilled water 4.5 per cent. Most of the cases had not responded favorably to the usual treatments for pruritis ani.

(*e*) Evidence that selenium disulfide, *in vitro* [using Selsun (2.5 per cent selenium disulfide), 0.5 per cent selenium disulfide in 2 per cent Duponol C (sodium lauryl sulfate), and a detergent control], inactivates the free sulfhydryl groups of human epidermis and mouse liver, is used to explain the effect of Selsun shampoo. The detergent action makes available previously nonreactive sulfhydryl groups, some of which are then inactivated by selenium sulfide.

[(*a*) Kile, R. L., Rockwell, E., and Schwarz, J., *Arch. Dermatol. and Syphilol.*, **68**, 296(September, 1953). (*b*) Miller, J. L., Van Velsor, H., and Johnson B. A., *ibid.*, 303(September, 1953). (*c*) Forbes, M. A., and Cook, H. G., *ibid*, 631(December, 1953). (*d*) Alexander, R. M., and Manheim, S. D., *J. Investigative Dermatol.*, **21**, 223(October, 1953). (*e*) Flesch, P., *ibid.*, 233(October, 1953).]

Treatment of Hypertension with Drugs

A New York physician reviews the current status of drug therapy in hypertension and gives the following summary and conclusions: "The treatment of hypertension should be undertaken only when that disease under observation represents a hazard to a patient's life or health. Drug therapy is usually directed at the neurogenic factor. A variety of drugs is available for blocking the motor synapses and nerve endings concerned in the excessive sympathetic nerve discharge believed to be a factor in hypertension. For the best results this should be defined by testing procedures in advance of and during treatment. The limiting factors are usually tolerance and side actions. At the cortical level, barbiturates are the most useful drugs, although these may be replaced eventually by *Rauwolfia serpentina*. At the hypothalamic level, 1-hydrazinophthalazine and protoveratrine are the most effective, whereas at the ganglionic level, hexamethonium bromide or chloride is the drug of choice. Parenteral administration of this drug is preferred to oral administration because of the inherent serious dangers of the latter. Block of sympathetic nerve endings, smooth muscle, or of capillaries is at present of minimal practical value in the treatment of hypertension. Salt depletion by diet and dietary adjuvants appears to affect the nonneurogenic or intrinsic factors in hypertension. Sympathectomy should be reserved for patients with a large neurogenic element who fail to respond to adequate medical therapy. In many cases, judiciously combined treatment provides the most satisfactory results."

[Mendlowitz, Milton, *Ann. Internal Med.*, **39**, 999(November, 1953).]

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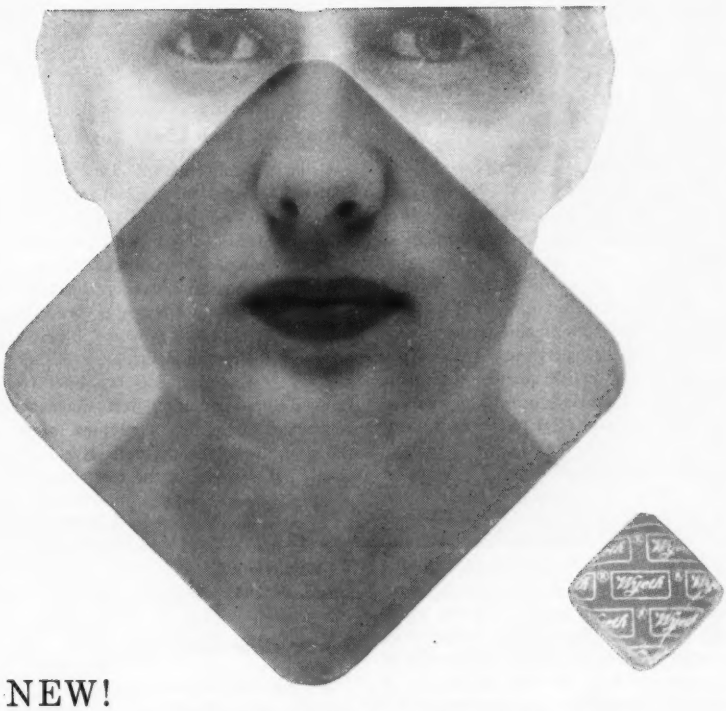

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Progress in Medicine

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Antibiotic and Chemotherapeutic Agents in Infantile Diarrhea and Vomiting

Controlled trials of Aureomycin, chloramphenicol, and sulfadiazine in the treatment of infantile diarrhea and vomiting were made at ten separate centers in Great Britain during 1950–1952. The three drugs were administered by mouth in doses of, respectively, 75 mg., 75 mg., and 125 mg. per lb. body weight a day for seven days. A total of 1,168 cases (789 mild, 379 severe) was included in the analysis of the results. Infants found to have either salmonella or shigella infections were excluded from this analysis. The numbers in the different treatment groups were 154 Aureomycin-treated, 415 chloramphenicol-treated, 247 sulfadiazine-treated, and 352 controls. The mean fatality rate was 2.8 per cent. Clinical progress after the start of treatment was assessed on the following criteria: average duration of diarrhea, average time to full clinical recovery, and proportion of mild cases which became severe. The Aureomycin-treated group progressed more favorably than the controls as regards the proportion of mild cases which became severe but not as regards the two other criteria. The chloramphenicol-treated and sulfadiazine-treated groups progressed more favorably than the controls as regards all three criteria. The progress of the sulfadiazine-treated group was significantly better than that of any other treatment group. Selection of the most appropriate drug for the treatment of individual cases of infantile diarrhea and vomiting may become possible when more is known of the etiology of the disease. The results of the present investigation indicate sulfadiazine and chloramphenicol as the drugs of choice, with the balance of evidence in favor of sulfadiazine, and their oral administration may be considered as a valuable addition to established methods of treatment. It should be realized, however, that adequate supportive therapy still remains of paramount importance, and that treatment with either of these drugs is not devoid of the risk of toxic manifestations attributable to their use.

[*Lancet*, **265**, 1163(Dec. 5, 1953).]

Histadyl in Allergic Asthma Crises

A report on four very severe cases of allergic crises (status asthmaticus) in which excellent results were obtained with massive doses of a solution (20 mg./cc.) of Histadyl (thenylpyramine, Lilly) is presented by Dr. R. J. Antos. The four patients respectively received 162 mg., 180 mg., 160 mg., and 145 mg. of the drug by intravenous infusion in 1,000 cc. of 5 per cent glucose in water. The infusion is given at the rate of 100 drops a minute until the patient complains of feeling "fuzzy," "dizzy," or "distant." "When this point is reached, usually after one hour," Dr. Antos states, "the infusion is slowed to 50 drops per minute and the patient reexamined, because shortly after this point is reached the patient will begin to clear and *then* there is danger of giving a toxic dose." He concludes that doses of this size are not convulsants in people with allergic crises but are "lifesaving."

[Antos, R. J., *Med. Times*, **81**, 858(Dec., 1953).]

Counterirritants, Assessing Their Effect

Using intramuscular injections of 0.2 cc. of 2.75 per cent saline solution to produce pain, two British physicians tested the ability of physical and chemical counterirritants to reduce the severity of the pain. The phenomenon of counterirritation was demonstrated by means of radiant heat or by galvanic stimulation strong enough to produce severe skin pain. Volatile oil of mustard, 3 per cent in simple ointment, causes moderately severe irritation when applied to the skin and is very effective in relieving saline-induced pain. Esters of nicotinic acid, in concentrations sufficient to cause intense flushing of the skin, are relatively ineffective. The physicians concluded that under the test conditions, the relief of deep-seated pain by counterirritation depends on the production of skin pain of adequate intensity, and that cutaneous vasodilatation is unimportant.

[Macarthur, J. G., and Alstead, S., *Lancet* (*London*), **265**, 1060(November 21, 1953).]

Tetracycline—New Antibiotic

A report on the treatment, with tetracycline, of 32 patients with miscellaneous infections, showed this wide-spectrum antibiotic to be as efficacious as the two chemically related products chlortetracycline (Aureomycin) and oxytetracycline (Terramycin). Given to 217 healthy male subjects in dosage of 2 Gm. of tetracycline daily for three days, nausea, vomiting, and diarrhea occurred in 12 subjects, while four exhibited apparent allergic reactions. Tablets of the drug caused more minor side reactions than did capsules prepared from the same batch of drug. Following multiple doses of tetracycline there appears to be an accumulation of the drug in the blood serum. Tetracycline is more soluble than chlortetracycline, and under usual test conditions it is more stable than chlortetracycline or oxytetracycline.

[Putnam, L. E., Hendricks, F. D., and Welch, H., *Antibiotics and Chemotherapy*, **3**, 1183(1953).]

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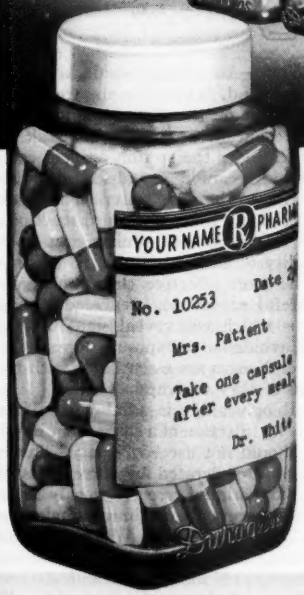

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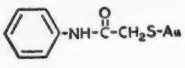
NNR

PRODUCTS RECENTLY ACCEPTED BY THE A. M. A. COUNCIL ON PHARMACY AND CHEMISTRY

AUROTHIOGLYCANIDE.—Lauron (Endo).—α - Auromercaptoacetanilid. — C_8H_8AuNOS.—M.W. 363.42.—The structural formula of aurothioglycanide may be represented as follows:



Actions and Uses.—Aurothioglycanide, a water-insoluble gold compound, is used for the treatment of rheumatoid arthritis on the same basis and subject to the same precautions as water-soluble salts of gold. (See *N.N.R.* under the section on gold compounds.) Aurothioglycanide is absorbed more slowly from the tissues than are water-soluble gold compounds and produces fewer untoward reactions, but it should be employed with similar caution to avoid the possibility of toxic reactions. It has not been shown to be more effective than other gold compounds. Careful supervision, repeated laboratory examinations which will reveal signs of gold intoxication, and avoidance of exposure to sunlight, ultraviolet rays, or X-rays are essential as with the use of other forms of chrysotherapy.

Dosage.—Aurothioglycanide is administered into the gluteal muscle by injection of a suspension in oil. The initial dose should not exceed 25 mg. This is gradually increased as tolerated by increments of not more than 25 mg. administered at weekly intervals for 22 weeks. However, a maximum single dose of 150 mg. should not be exceeded. When untoward effects are observed, the schedule of weekly injections should be interrupted until such manifestations have disappeared.

Tests and Standards—

Physical Properties: Aurothioglycanide is a grayish-yellow powder, m. p. 238.0–241.0°. It is insoluble in acids, bases, benzene, ether, chloroform, and water.

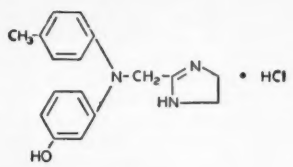
[For more information regarding this monograph see *J. Am. Med. Assoc.*, **152,** 1338 (Aug. 1, 1953).]

Endo Products, Inc., Richmond Hill, N. Y.

Suspension Lauron in Oil: 5 and 10 cc. vials. A suspension in sesame oil containing 50 and 150 mg of aurothioglycanide in each cc. U. S. patent 2,451,841. U. S. trademark 398,432.

PHENTOLAMINE HYDROCHLORIDE.—Regitine Hydrochloride (Ciba).—$C_{17}H_{19}N_3O.HCl$.—M.W. 317.81.—2-{[N-(*m*-Hydroxyphenyl)-*p*-toluidino]methyl}-2-imidazoline hydrochloride.—The

structural formula of phentolamine hydrochloride may be represented as follows:



Actions and Uses.—Phentolamine hydrochloride, a salt of phentolamine base, is suitable for oral administration and acts as a potent adrenergic blocking agent, producing adrenolytic and sympatholytic effects. Its antiadrenergic action constitutes the basis for the use of phentolamine salts in the diagnosis and control of hypertension caused by pheochromocytoma and in the treatment of certain vascular diseases in which blood flow to ischemic extremities can be increased by adrenergic blockade. In certain cases the drug has been shown to be beneficial in the treatment of the sequelae of frostbite and immersion foot and has produced favorable responses in other vasospastic conditions, including Raynaud's disease and vasospasm associated with trophic ulcers of the extremities. It has also proved valuable in some patients as an antihypertensive agent, particularly in the management of hypertensive emergencies or as an adjunct in the treatment of chronic arterial hypertension.

Because of its less ready solubility and the temporary stability of aqueous solutions of phentolamine salts, phentolamine hydrochloride (in contrast to phentolamine methanesulfonate) is not suited for parenteral injection, which is necessary in the diagnosis and surgical management of pheochromocytoma. However, phentolamine hydrochloride is useful by the oral route for the control and prevention of blood pressure increases in patients with pheochromocytoma until surgical removal can be undertaken. For parenteral use and dosage, see the monograph on phentolamine methanesulfonate, *This Journal*, **15**, 117 (Feb., 1954).

Phentolamine hydrochloride is relatively nontoxic, but oral administration of the drug may produce untoward side effects, such as tachycardia, orthostatic hypotension, nasal stuffiness, and gastrointestinal disturbances such as nausea, vomiting, and diarrhea. Because of tachycardia, most patients do not tolerate the dosage required for sustained therapy of chronic hypertensive vascular disease. Withdrawal of medication is not always necessary, and, when it is employed in other conditions, a reduction in dosage is frequently followed by a disappearance of untoward symptoms.

Dosage.—Phentolamine hydrochloride is administered orally. The usual adult dose is 50 mg. four to six times daily. Larger doses, as high as 100 mg., four to six times daily, may be necessary, especially in severer cases of peripheral vascular disease and hypertension. In children, the usual dosage is 25 mg. four to six times daily.

Tests and Standards—

Physical Properties: Phentolamine hydrochloride is a white or slightly off-white, odorless, bitter powder, m. p. 238–242° (with slight decomposition). It is very slightly soluble in chloroform, and practically insoluble in acetone and ethyl acetate. The amounts that dissolve in the following solvents to form 100 ml. of solution are: 0.85 Gm. in alcohol and 2 Gm. in water. Aqueous solutions of phentolamine hydrochloride are unstable. The *p*H of the 1% solution is 4.5–5.5.

[For more information regarding this monograph, see *J. Am. Med. Assoc.*, **152**, 1533 (Aug. 15, 1953).]

Ciba Pharmaceutical Products, Inc., Summit, N. J.

Tablets Regitine Hydrochloride: 50 mg. U. S. patent 2,503,059.

HEXAMETHONIUM BROMIDE.—Bistrium Bromide (Squibb).—$C_{12}H_{30}Br_2N_2$.—M.W. 362.21.—Hexamethylenebis(trimethylammonium bromide).—The structural formula of hexamethonium bromide may be represented as follows:

$$(CH_3)_3\overset{+}{N}\text{–}CH_2(CH_2)_4CH_2\overset{+}{N}(CH_3)_3\ 2Br^-$$

Actions and Uses.—Hexamethonium bromide is similar in its actions and uses to the salts of other quaternary ammonium compounds, such as tetraethylammonium chloride, which act as ganglionic blocking agents. Hexamethonium inhibits the transmission of nerve impulses through both the sympathetic and parasympathetic ganglia of the autonomic nervous system. Interference with the transmission of sympathetic stimuli causing vasospasm, particularly in the lower extremities, produces increased blood flow and hypotension. Simultaneous interference with the transmission of parasympathetic impulses produces loss of ocular accommodation, cessation, or decrease of motility of the gastrointestinal tract, and alteration of bladder function.

Hexamethonium bromide is of limited clinical usefulness as a therapeutic and diagnostic agent in the management of peripheral vascular diseases. It may be beneficial in the treatment of thromboangiitis obliterans, arteriosclerosis obliterans, arterial embolism, diabetic gangrene, herpes zoster, acute thrombophlebitis, Raynaud's disease, acrocyanosis, trench foot, immersion foot, and various causalgias including reflex dystrophy. It may be employed diagnostically in acrovascular conditions to estimate the contribution of sympathetic stimuli in the production of vasospasm.

Hexamethonium bromide is also useful in the management of selected cases of hypertension. The drug is more effective for controlling episodes of severely elevated blood pressure than for mild hypertension. It may be helpful when used with caution in patients with severe hypertension and cardiac decompensation, but it is not likely to be effective in malignant hypertension with uremia. It should be used with caution, if at all, in patients with myocardial ischemia, cerebral ischemia, or encephalopathy and renal failure.

Since hexamethonium is more slowly and less completely absorbed by oral administration than by parenteral injection, the oral route is not recommended in the therapy or diagnosis of peripheral vascular disease. Because larger doses are required to produce the effects of the drug by the oral route, the use of the bromide salt in hypertension involves the regular occurrence of bromidism, hence *it should be administered only by parenteral injection.* Injections of the drug are not cumulative, but tolerance may develop in the management of severe hypertension. Upon injection, the drug produces its effects promptly and these usually persist from

four to six hours. Following injection, the drug is excreted in the urine, whereas on oral administration a large portion passes through the intestinal tract in the stool.

Hexamethonium may produce peripheral circulatory collapse. Because of its hypotensive action, it should be employed with caution in all elderly patients and in those with arteriosclerosis. Its use is dangerous in patients who have recently lost blood because compensatory vasoconstrictor mechanisms are blocked. Side effects occasionally observed include dilatation of the pupils, blurred vision, dryness of the mouth, postural faintness, transient nausea, vomiting, or drowsiness. Constipation may occur in some patients, which often can be managed by the concomitant administration of laxatives, repeated enemas, or temporary discontinuance of the drug. When the constipation is serious, paralytic ileus may result. This may be overcome by the oral administration of bethanechol chloride in doses of 5 to 10 mg. twice daily. Phenylephrine hydrochloride, 2 to 4 mg. intravenously, may be used to combat profound hypotension. Small doses should be used because hexamethonium increases the sensitivity to vasopressor agents.

Dosage.—Hexamethonium bromide is administered by parenteral injection intravenously, intramuscularly, or subcutaneously, depending on the rapidity of response desired. To induce ganglionic block, 90 to 135 mg. (50 to 75 mg. in terms of the ion) is given parenterally as a single dose. Heavier patients may require as much as 180 mg. (100 mg. as the ion), but the maximum dose should seldom exceed 90 mg. This produces a maximum response within a few minutes, which lasts for one hour and subsides gradually after four to six hours.

When repeated doses are necessary, the minimum effective dose is repeated every six hours, after meals and at midnight. Doses of 90 mg. or more may cause profound postural hypotension and occasionally a significant reduction in supine blood pressure. Patients receiving such doses for the first time should be kept in a recumbent position for three hours following the initial dose. Upon arising, each patient should be instructed to lie down at the first feeling of faintness. Subsequent doses usually do not cause such profound hypotension because of vascular adjustments. The initial dose may be given subcutaneously with the patient in a sitting position as an added precaution. For severely ill or debilitated patients, an initial dose of 1.8 to 9 mg. (1 to 5 mg. as the ion) should be used. This should be increased gradually, depending upon the response of the patient.

Tests and Standards—

Physical Properties: Hexamethonium bromide is a white, tasteless, crystalline material with a faintly aromatic odor, m. p. 281–286°, when the sample is put in the bath at 265°. Hexamethonium bromide is freely soluble in methanol and water, soluble in alcohol, and insoluble in ether. The *p*H of a 1% solution is 6.2–7.0.

[For more information regarding this monograph see *J. Am. Med. Assoc.*, **153**, 924 (Nov. 7, 1953).]

E. R. Squibb & Sons, Division of Mathieson Chemical Corporation, New York.

Solution Bistrium Bromide: 10-cc. vials. A solution containing 44.75 mg. of hexamethonium bromide in each cc. Preserved with 0.9% benzyl alcohol.

ANTIHEMOPHILIC PLASMA (HUMAN).—Irradiated antihemophilic plasma (human) is the sterile plasma prepared in a manner to prevent destruction of the relatively labile active fraction by pooling plasma obtained by centrifuging whole blood from approximately 20 donors. After sterilization by ultraviolet irradiation, the product is dried from a frozen state under high vacuum. The product meets the requirements of the National Institutes of Health of the United States Public Health Service.

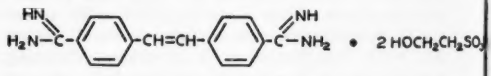
Actions and Uses.—Antihemophilic plasma (human) is human plasma processed so as to prevent denaturation of the antihemophilic globulin component present in freshly prepared plasma. It is administered for the temporary reduction of the dysfunction of the hemostatic mechanism in hemophilia.

Dosage.—Antihemophilic plasma (human) is administered intravenously. It is employed as a solution, prepared by restoration of a freeze-dried preparation equivalent to either 60 or 120 cc. of citrated liquid plasma with either 25 to 50 or 50 to 100 cc. of water for injection, depending on the volume to be used. Each 60-cc. equivalent of citrated liquid plasma, which is equivalent to 50 cc. of original plasma or 100 cc. of circulating whole blood, will maintain a normal clotting time for several hours to two days. This dose is usually sufficient for children; twice this amount may be required for adults. The maintenance dosage is dependent upon the weight and response of the patient. Injections should be repeated so as to maintain normal clotting time; repeated doses do not lose their effectiveness.

Hyland Laboratories, Los Angeles.

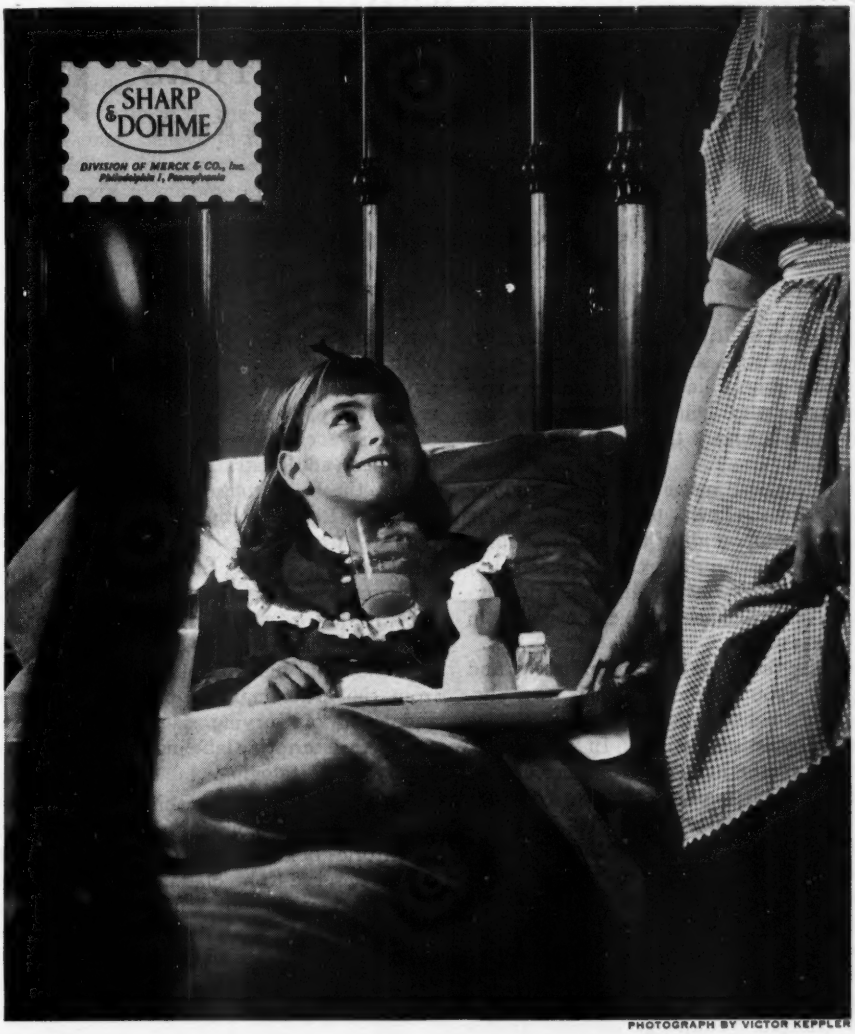
Dried Antihemophilic Plasma (Human): 50-cc. and 100-cc. bottles of plasma plus anticoagulant dried from the frozen state, packaged with 50 cc. and 100 cc. of 0.1% citric acid diluent, respectively.

STILBAMIDINE ISETHIONATE.—$C_{16}H_{16}N_4 \cdot C_4H_{12}O_8S_2$.—M.W. 516.59.—4,4′-Stilbenedicarboxamidine di(β-hydroxyethanesulfonate.)—The structural formula of stilbamidine isethionate may be represented as follows:



Actions and Uses.—Stilbamidine isethionate, a water-soluble salt of an aromatic diamidine base, exhibits chemotherapeutic properties useful in the treatment of certain serious protozoan and systemic fungal infections. Although stilbamidine, like certain other diamidines, also inhibits other types of microorganisms as well as tumor cells, its use in the treatment of other infections or in neoplastic diseases has not been established. Until more conclusive evidence becomes available, use of the drug should be restricted to the treatment of early African trypanosomiasis (except in cases with significant spinal fluid changes) and kala-azar (except in mild leishmanial infections responsive to pentavalent antimony), especially when antimony therapy is contraindicated because of intercurrent tuberculosis, systemic actinomycosis, and generalized North

(Continued on page 185)



PHOTOGRAPH BY VICTOR KEPPLER

"Now I can swallow easily—my throat's much better"

TRACINETS®

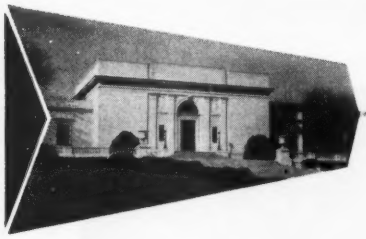
BACITRACIN-TYROTHRICIN TROCHES WITH BENZOCAINE

Your patients will like TRACINETS because they really soothe irritated throats—taste good, besides.

Two topical antibiotics combined, bacitracin and tyrothricin, give your patients double antibacterial action, while benzocaine provides a soothing, anesthetic effect. In severe throat infections, TRACINETS conveniently supplement systemic therapy.

Quick Information: Each troche contains 50 units of bacitracin, 1 mg. of tyrothricin, 5 mg. of benzocaine. In vials of 12.

This advertisement is appearing in current medical journals as part of Sharp & Dohme's promotion to the profession.



STRAIGHT FROM HEADQUARTERS

ROBERT P. FISCHELIS, EDITOR

Another View of the Multiplication of Specialties

PERHAPS the multiplication of pharmaceutical specialties should be viewed as an asset rather than a liability to the future of pharmacists who believe in making the practice of pharmacy their principal source of income.

One of the best answers to those who are pointing with alarm to the decreasing amount of compounding that goes on in a modern prescription department is that new and even more responsible duties are devolving upon the pharmacist who specializes in prescription work.

There are those in the drug industry, and among lay groups, who, for their own purposes, try to belittle the professional service rendered by pharmacists. In doing so, they point to the increasing number of prescriptions which require only the counting out of dosage forms or the pouring of liquids from one container to another and writing the proper label.

But is it not the multiplication of specialties which really taxes the professional ability and experience of the practicing pharmacist today and makes him the indispensable man?

The continual addition of new trademarked names for the same and similar compounds and formulations places new responsibilities upon the individual who translates the physician's prescription into a final package from which the patient receives his dose of medicine. The compounding of a prescription of U. S. P. tinctures, chemicals, medicated waters, and elixirs was a relatively simple task except when incompatibilities were encountered.

Knowledge of the form and usage of adrenosem, almebarb, bioepiderm, codempiral, dalzinate, erythrocin, edrisal, ethaverine, furadantin, gevrine, hexaverine, ilotycin, karidium—to cover only a random selection of relatively new names from the first ten letters of the alphabet—which may be called for at any minute in a modern prescription department today, presupposes a background in pharmacy, chemistry, pharmacology, and pharmacy administration, which would have taxed the ingenuity of Procter, Parish, Maisch, Remington, and their contemporaries to the utmost. And we are inclined to believe that these leaders of a past era would consider the practitioner of the present day as rendering a superb service by being able to stock and supply to the physician and his patient the right product from the great mass of packages, bottles, and vials of varying size, often with incomplete descriptive labeling, and miscellaneous ways of cataloging.

The practicing pharmacist of today has every reason to complain about excessive inventories of trade-marked products which do not deserve to be classified as specialties because they do not contribute anything new to therapeutics but are merely duplications of products developed by others.

Of course, the superfluous multiplication of specialities should be controlled but this can be accomplished to best advantage by voluntary professional methods. There is increasing evidence that the producers of specialties are aware of the babel and impossible administrative situation which they have been creating and that they want to do something about it.

The practicing pharmacist who concentrates on prescription dispensing knows that the worse this situation becomes, the more essential are his services in preventing mistakes, misfortune, and catastrophe.

Let us not be too quick about asking for the kind of simplification which will give credence to the argument of those who ridi-

cule the need for professional service by dwelling on the illusion that modern dispensing requires nothing but reading a label and counting out tablets or pouring from one bottle to another.

If we truly believe in the free enterprise system, we must believe in it for the other fellow as well as for ourselves. We should become a party to curbing excessive indulgence in uneconomical and purely selfish practices, but let us not try to make things so automatic and so simple as to aid those who are bent on turning the practice of medicine and pharmacy over to supermarkets and other merchants.

Well Done, Mrs. Jones

MRS. Hester B. Jones, who retired from active duty as a member of the A.PH.A. Headquarters Staff recently, served as librarian at the American Institute of Pharmacy in Washington, D. C. for the past fifteen years.

Coming to the ASSOCIATION a few years after the completion of its Headquarters Building in Washington, D. C., Mrs. Jones organized the existing library holdings. She carried on the library services of the ASSOCIATION to the point where additional facilities and personnel are now required to adequately meet the requirements of the staff and the many others who make daily use of this important facility.

Mrs. Jones received her early library training in her native state of Utah and subsequently held responsible positions in Michigan, Colorado, and Washington, D. C., before taking over the supervision of the A.PH.A. library.

Librarians and others connected with the many federal government agencies and private organizations, who have made use of our library facilities, have come to know Mrs. Jones as a diligent and conscientious worker, ever ready to go to great lengths to supply documents, books, and pamphlets desired to meet the need of some current research problem or to establish authenticity of essential records.

To the Staff of the A.PH.A. she brought not only her professional talents but a cheerful and friendly disposition which often made the problems of the day a little easier.

All those who have made use of the A.PH.A. library facilities in the past fifteen years and have met the cheerful and accommodating lady in the blue smock will miss her pungent comment, her ready smile, and the sense of humor which served to penetrate occasional tense situations.

On the evening of February 17, members of the A.PH.A. Headquarters Staff gathered at a dinner in honor of Hester B. Jones, to present her with a gift, and to wish her well on the trip to Pueblo, Colorado, where we hope she will for many years enjoy doing the things which a busy librarian does not have time to indulge in while on the job.

On behalf of the Council of the A.PH.A., the Secretary of the ASSOCIATION presented Mrs. Jones with an engrossed certificate of appreciation of services well and competently rendered. Mrs. Jones responded in characteristic good form. The reminiscent strains of "Auld Lang Syne" with which the staff ended its tribute to the guest of honor should serve as a frequent reminder to her of the accolade "Well Done, Mrs. Jones."

The Boston Convention

ALL signs point to a great Convention in Boston this coming August. Not only is the city of Boston a center of medical progress but it is also the gateway to a vacationland which is new to many of our members and which others will enjoy revisiting.

The timing of the Convention is such that it comes at the height of the summer vacation season, not too close to Labor Day which usually marks the end of formal vacation trips, and yet close enough to the time of year which produces a lag in many sections of the country for those who are engaged in business.

The Convention will follow the customary pattern of making it possible for those who are interested in the broad aspects of pharmaceutical affairs to find people and topics for discussion which will bring them up to date on the art and science of pharmacy and also give them an opportunity to pass on the fruits of their own thinking and experience to others.

Those who are interested particularly in the science of pharmacy, the art of pharmacy, the history of pharmacy, pharmaceutical economics, or pharmaceutical education and legislation, will find the Section programs especially to their liking. Those

who are anxious to see the ASSOCIATION take a definite stand on many new developments in the profession will want to spend much of their time in sessions of the House of Delegates where the discussions are representative of all vocational, geographic, economic, and social interests.

Every member of the ASSOCIATION can contribute something to the general welfare of pharmacy at A.PH.A. Conventions because membership is all-inclusive and thoroughly representative. The section meetings, the sessions of the House of Delegates, and the general sessions provide forums for discussion in which no trade or vocational group dominates the proceedings.

The members of the profession as a whole, for whom the ASSOCIATION was organized and for whom it has been functioning for more than a century, have been sufficiently unselfish and farsighted to maintain the organization as it was conceived by the founders—open to all reputable pharmacists as individuals.

Come to Boston and join your fellow members in discussing and planning for pharmacy's future.

Death Takes Its Toll

JUST as this issue of the JOURNAL was about to go to press, we received news of the deaths of Dr. Carson P. Frailey, Professor Ray S. Kelley, and Mrs. George A. Moulton.

Dr. Frailey, a resident of Washington, D. C., who recently retired as executive vice-president and secretary of the American Drug Manufacturers Association, was president of the National Drug Trade Conference and a member of the Board of Trustees of the U. S. P. Convention. He passed away on March 13.

Professor Kelley, of the faculty of the Massachusetts College of Pharmacy in Boston, was secretary of the Scientific Section of the A.PH.A. and grand secretary of the Kappa Psi fraternity. His death occurred on March 12.

Both of these men gave outstanding service to the advancement of pharmacy in their respective capacities and will be sorely missed by their many friends and contemporary workers.

We regret also to announce the death of Mrs. George A. Moulton, honorary president of the Women's Auxiliary of the AMERICAN PHARMACEUTICAL ASSOCIATION, which occurred at the Moulton winter home in Fort Myers, Florida, on Thursday, February 11. A more detailed statement will appear in a later issue of THIS JOURNAL.

National Pharmacy Week Awards

NATIONAL Pharmacy Week is not just another one of the business-producing weeks of which there are perhaps too many. It was conceived twenty-eight years ago as an opportunity to stress, at least once a year, the professional aspects of the retail pharmacy and to re-emphasize the close ties maintained by pharmacists with other health agencies.

From the beginning, it was an A.PH.A. project and in recent years its unselfish basis has been emphasized by dedicating the observance of the week to a major health program. Today it is well recognized among the professions dealing with medical care that National Pharmacy Week is intended to emphasize that the "pharmacist works for better community health" the year 'round.

The original window display program in which purely drug and pharmaceutical equipment and materials were portrayed has been expanded to depict the pharmacy and the pharmacist as a highly essential member of the health promotion team. In addition to offering awards for the best window displays in pharmacies, the AMERICAN PHARMACEUTICAL ASSOCIATION now makes awards for the best public displays on the theme "Your Pharmacist Works for Better Community Health" arranged by pharmacies; the best displays arranged by students of pharmacy in the respective colleges; and for the best displays in hospitals by hospital pharmacists.

On pages 158–161 of THIS JOURNAL announcement is made of the winners of the 1953 awards, and the general character of the observance of National Pharmacy Week in 1953 is reviewed.

To Bert R. Mull, chairman of the Committee on Public Relations, and to his associates, whose names are recorded in the report, the A.PH.A. and the profession of pharmacy in general owe a debt of gratitude for the consistent and persistent manner in which they have pursued the major objective of National Pharmacy Week and the extent to which this objective is being achieved.

The Strengths of Pharmacy

1953 REMINGTON MEDAL ADDRESS

(Concluding Chapter)

by Dr. Hugh C. Muldoon*

III

Not everyone realizes to what extent pharmacy has become a specialized profession. Retail pharmacy, the most important and most familiar specialty, attracts by far the greatest number of our graduates. The major objective of our minimum course must be, therefore, to prepare men well for the retail field. But students with other career interests must be considered. One graduate out of ten enters hospital pharmacy or engages in drug production or sales or promotion; or in wholesaling or organizational work or journalism or government service; or in education or research, or in some other specialty. No one college can be expected to provide instruction in all of pharmacy's branches. But regardless of their individual choices, we serve all our students well when we provide a flexible curriculum with emphasis on a breadth of education, that is in turn based on sound fundamentals.

Graduate Instruction

Each profession is responsible for its own development. To direct pharmacy in the future we shall need well-informed, creative minds, as well as skilled hands. Professional progress comes through research. One of the most important functions of pharmaceutical education is to prepare men for advanced study and systematic investigation. Colleges have an obligation to produce knowledge as well as to transmit it.

More than 600 students are now enrolled in our graduate schools seeking M.S. and Ph.D. degrees. We need many more, for industry and education engage these highly trained workers while their diplomas are still in their hands. Among the 4,500 Bachelors of Science in Pharmacy we graduate each year, are scholars of ability and initiative who would if properly trained be able as researchers to make significant contributions. Those who have the capacity and the desire and the will, should be encouraged to undertake advanced study. Under wise direction they will grow and develop and learn to adventure independently into the unknown, in whatever fields they may choose.

Professional Literature

Eventually, the results of their researches will be published in the technical journals for all to see. Publication is a way of obtaining an unprejudiced evaluation of a man's work by other specialists in the area. Professional journals permit communication among the members of a group. In them, new ideas, new methods, new materials are announced. Often, they are the only means the man in the prescription room uses to supplement his professional knowledge. Pharmacy is fortunate, then, that *its professional literature is one of its developing strengths.*

We take pride in the two *Journals of the American Pharmaceutical Association*, the *Bulletin of the Society of Hospital Pharmacists*, the *American Journal of Pharmaceutical Education*, the *American Professional Pharmacist*, and the most venerable of all, *The American Journal of Pharmacy*. All these compare favorably with the journals of the other medical sciences.

There are dozens of other useful journals published by associations and manufacturers and schools. An even larger number of national and regional journals, such as *Drug Topics*, and *The American Druggist*, and the *Journal of the National Association of Retail Druggists*, are devoted more especially to the news and to the business of pharmacy.

Textbooks, as well as formularies and dispensatories and other reference books, are improving in quality and increasing in number. Publications dealing with the history of pharmacy come from the distinguished American Institute of the History of Pharmacy. Pharmacists have long been active and influential in preparing the many revisions of the *United States Pharmacopeia* and the *National Formulary*.

(Continued on next page)

* Dean, College of Pharmacy, Duquesne University, Pittsburgh, Pa.

STRENGTHS OF PHARMACY
(continued)

Pharmaceutical Organizations

The National Formulary is wholly the work of the American Pharmaceutical Association, our oldest and most eminent, national, professional organization. *This admired and respected association, together with other societies that subscribe to its ideals, form one of pharmacy's superlative strengths.*

Active, vigorous, expanding, the A.PH.A. is an organization of which all pharmacists can boast. For over a century, it has consistently advanced the prestige of pharmacy and extended its usefulness, arousing, encouraging, and informing not only its own members, but all other pharmacists who would listen. Unselfishly, it mothered numbers of other national, regional, and state associations. More than half the students enrolled in our colleges today are members of its student branches.

The A.PH.A. sets standards of professional conduct and excellence. It represents pharmacy's collective conscience. It gave us our exemplary code of ethics. It deals with members by the thousands, but it is happy to serve personally even the most remote and inconspicuous individual pharmacist. Inclusive, rather than exclusive, the ASSOCIATION welcomes to its ranks all who have a legitimate interest in pharmacy. Under expert leadership its thousands of members pool their wisdoms and experiences and hopes and ideals to determine the ASSOCIATION's policies. Its officers are leaders in national planning and action. The ASSOCIATION speaks authoritatively for the profession when a stand must be taken on controversial questions. As very recent history plainly shows, when it chooses to exert it, the A.PH.A. has a powerful influence on national legislation that affects pharmacy. Capitol Hill respects the advice and counsel that come from the A.PH.A. headquarters, Washington's stately white-marble American Institute of Pharmacy. Capitol Hill listens to other associations, too, but the mother society can speak ably for all divisions of pharmacy.

There are more than a dozen strong national associations concerned primarily with the economics of pharmacy, with wholesaling and manufacturing and with other special interests. There are even important smaller specialized groups, such as the American College of Apothecaries, among the pharmacists who serve the public directly. In Rho Chi, the Phi Beta Kappa of pharmacy, we have a large and active society that encourages high scholarship in our colleges. Pharmacy is better organized today than ever before, but we need still greater solidarity.

Pharmacists have a personal and a group responsibility to see that safe, dependable, up-to-date pharmaceutical service is available to all. The state makes of pharmacists a privileged and a protected group. It depends upon them to provide continuously a special kind of indispensable health service that cannot be furnished by others. It must be modern, reliable, accurate, precise. The careful legal regulations that surround and protect the pharmacist are the state's indirect acknowledgment of the importance of the pharmacist's work. *They strengthen pharmacy.*

State Boards and Legislation

The many national, state, and local laws and rules and regulations that protect and guide the pharmacist, ensure safe service to the people. Pharmacists have, as they should have, great respect for the law. To a considerable extent pharmacists, through other pharmacists, police their own profession. Offenses against pharmaceutical ethics are the province of the professional societies. But there are laws which must be obeyed. The state boards of pharmacy, composed of experienced pharmacists, influence and guide legislation. They regulate the practice of pharmacy.

They license pharmacists, administer internships, and authorize the operation of drugstores. Under their direction infractions of the pharmacy laws are detected and punished. The boards guard against inefficient prescription compounding and the unauthorized sale of forbidden or restricted drugs. They apply legitimate pressures for the improvement of pharmaceutical practice.

The state boards are linked through the National Association of Boards of Pharmacy, a strong organization that works quietly but effectively for the betterment of pharmacy and the unification of the laws which govern it. Through district and national meetings it fosters a close and friendly relationship with the colleges. This splendidly directed ASSOCIATION is an invaluable aid in maintaining and extending the influence of pharmacy, and in protecting the public and the pharmacist. *It adds to pharmacy's strength and professional prestige.*

The regulatory work of the boards and the leadership of our associations is sorely needed at this special time when the nation's faith in moral values appears to have weakened, and the restraints that have always governed society seem to have become impotent or inoperative. With less effective colleges and associations and boards, the path ahead would indeed be dark.

The Future

Men are always apprehensive of the future. Just now, more than ever, we have a feeling of insecurity. World affairs cause great unease. We know that ahead of us lie political and social and economic changes. They are inevitable. If they come, as we hope, through the discipline of the law, they will not be catastrophic. Whatever the changes may be, and whenever they come, as sensible Americans and as responsible professional workers, we shall adjust to them. In pharmacy, we may expect frustrations and disappointments and, sometimes, failures. But there will be successes, too. Strength comes through struggle. Pharmacy will continue to have dignity and character and direction and purpose.

In a recent convincing editorial Dr. Robert L. Swain tells us that today the drugstore is economically secure, and professionally sound, and competitively strong. We believe it will continue to be secure and sound and strong. We expect it to gain strength through firmer organization of those who practice it, through advanced educational standards, and through the improved understanding that will result from an enlarged public relations program.

Convinced of the soundness and essentiality of their profession, pharmacists will develop new public appreciation and support by telling the story of pharmacy truthfully and enthusiastically and perseveringly to all who will listen. Interprofessional relationships will be clarified and strengthened. International friendships will flourish. Industry will continue to assist the colleges in opening new doors into the future. The pharmaceutical curriculum will be extended beyond the five-year plan now under consideration. Graduate offerings will be enlarged and expanded. As the specialties of pharmacy grow in importance and attractiveness, they will receive the greater individual attention they already deserve.

The graduates of our present and projected educational programs will be able to employ effectively the most modern physical and chemical and biological and radiological tools of their profession. They will cope successfully with all the hoped-for progress that scientific research will bring to medical treatment. We are confident, too, that we shall have trained them sufficiently well in general areas that they will be able to maintain a serene inner sense of direction in the midst of confusing social change.

We admit, regretfully, that there will always be men engaged in pharmacy who differ in their choice of values. Many, many thousands, the great majority, will aggressively support their profession, understanding its primary purpose, aware of its past accomplishments, and proud of their own professional activities that promote the common good.

There will be other profit-seeking traders who will flaunt their disloyalty to an ancient calling and scoff at the imperatives of professional ethics. The separateness of the two groups will increase. Since environment can gravely affect the quality of pharmaceutical service, eventually we hope, the privilege of practicing pharmacy in highly commercial surroundings will be withdrawn.

We foresee no changes in the American pattern of life that will negative the pharmacist as a social force. His gracious human qualities will endure. Psychologically as well as pharmaceutically, he will continue to minister to a great fundamental need, and offer wise counsel as well, to the disturbed in mind and to the ill in body, helping both to orient wisely their living.

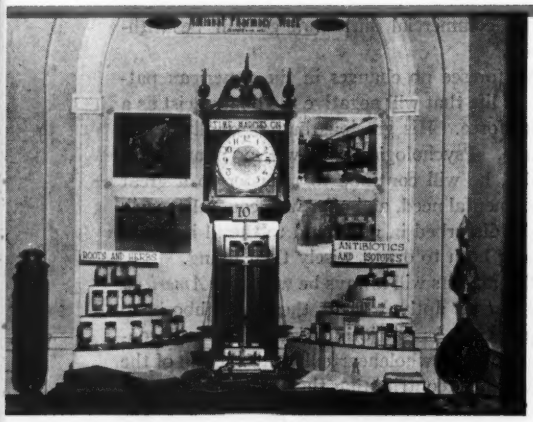
Pharmacists will always be what the *American Druggist* so aptly termed them—neighborhood statesmen. As patriotic citizens they will continue to enter wholeheartedly into the life of the community, contributing their special skills and wisdom and experience and judgement in the public service. Unselfishly, they will help others to obtain what they themselves seek, health, and independence, and security, and personal freedom, and the right to enjoy the American way of life.

The conscientious young pharmacists of today are rightly concerned about the future. They look ahead. Sturdily independent, they will, we believe, want no share in a paternalistic economy planned from above. They are not unrealistic idealists. They desire only what we are confident they will have—an opportunity to earn in a *fear-free democracy* a modest living for themselves and their families, practicing worthily the profession for which they have been trained. They have faith in the future. They have faith in pharmacy. They may well have, for pharmacy is strong today. It will continue to be strong.

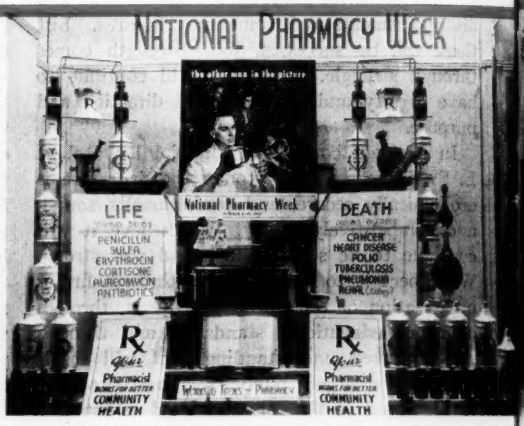
It will continue to be strong—

Because of the character and motivation of its personnel;
Because of public trust based on age-long, faithful, and intelligent service;
Because of its respect for education;
Because of its awareness of its problems and its willingness to face them;
Because of its deep concern for the future.

1953 national pha



W. M. Hartmann of Ellis Hospital, Schenectady, N. Y., won first prize plaque in Hospital competition.



Libby Rexall Drug Store, Baltimore, received third prize, of $50 and a plaque for this attractive display.

THE OVER-ALL participation in the observance of 1953 National Pharmacy Week was the most gratifying example of cooperation in this important public relations effort sponsored by the AMERICAN PHARMACEUTICAL ASSOCIATION since its inception twenty-eight years ago, according to Mr. B. R. Mull, chairman of the Committee on Public Relations of the A.PH.A.

Serving on the Committee in charge of National Pharmacy Week with Mr. Mull, were George F. Archambault, Walter M. Chase, John A. Lynch, and Robert P. Fischelis.

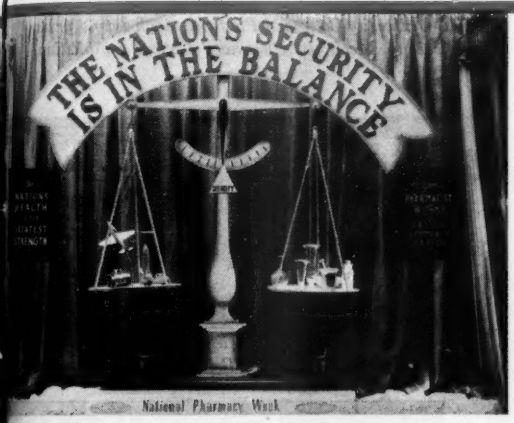
Great credit must go to the state pharmaceutical associations for their active participation in the selection of the winners of the displays entered in the respective states. Thirty-one eligible display photographs were submitted by state Pharmacy Week Committees in the nationwide contest. The most effective display selected from among the participants by the National Committee was that of Minnich's Pharmacy, York, Pa. Llewellyn E. F. Min-

Certificate of Merit in Public Exhibits competition went to A.Ph.A. Student Branch, Arizona U.

Prescription service theme won Certificate of Merit for McCool's Pharmacy, Joplin, Mo., display.

hamacy week

Annual observance, October 4–10, 1953, topped all previous records for cooperative effort and extent of participation by pharmacists, the press, radio, television, and state associations.



To John E. Donaldson went second prize of $100 and a plaque for display in Peoples Drug Store No. 7, Washington, D. C., featuring the Nation's Security.

Second prize, a Certificate of Merit was won by A.Ph.A. Student Branch, Medical College of Virginia, in Public Exhibit group.

nich, proprietor of this pharmacy, was named as the first prize winner of the 1953 contest. This prize consists of a plaque and a cash award of $200.

Second prize consisting of an award of $100 and a plaque went to John E. Donaldson for the display entered by People's Drug Stores of Washington, D. C., and the third prize consisting of a plaque and an award of $50 was won by Aaron M. Libowitz, of the Libby Rexall Drug Store, Baltimore, Md. Those receiving *Honorable Mention* in this classification are listed on page 161.

Public Exhibits

In the Public Exhibits competition, first prize, consisting of a plaque, went to *Phi Delta Chi* Fraternity at the University of Arizona College of Pharmacy, Tucson, Arizona, for the exhibit prepared by members of that fraternity for display in the main branch of the Southern Arizona Bank & Trust Company, Tucson.

Second prize was awarded to the A.PH.A. Student Branch of the Medical College of Virginia, Richmond, for their display in the Hotel John Marshall, Richmond, Va.

Third prize consisting of a certificate of merit was awarded to the A.PH.A. Student Branch of the College of Pharmacy of the University of Arizona for its display at Jacome's Department Store, Tucson.

Pharmacy Colleges

The winning displays in the pharmacy college competition were—in the order of their selection—the Department of Pharmacy, Philadelphia College of Pharmacy and Science; the College of Pharmacy of the University of Colorado; and the Student Branch of Butler University College of Pharmacy. The first prize winner will receive a plaque and the others will receive certificates of merit.

Hospitals and Clinics

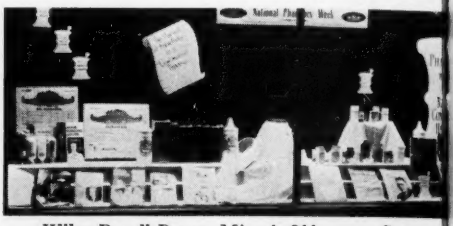
The winner of the first prize, in the Hospitals and Clinics competition, consisting of a plaque, was Walter M. Hartmann, chief pharmacist at Ellis Hospital, Schenectady,

Dunnington's Apothecary, Brockton, Mass., received Certificate of Merit in Retail Pharmacy competition.

Colorado University College of Pharmacy took second prize, a Certificate of Merit, in Pharmacy College competition.

New York. Second prize, consisting of a certificate of merit, went to chief pharmacist James M. Trotter of the 3345th Medical Group, 3345th Technical Training Wing, Chanute Air Force Base, Illinois; and third prize, consisting of a certificate of merit, was awarded to Walter M. Frazier, chief pharmacist at Springfield City Hospital, Springfield, Ohio, who was assisted in preparing his display by Melvin Orchen, hospital pharmacy intern.

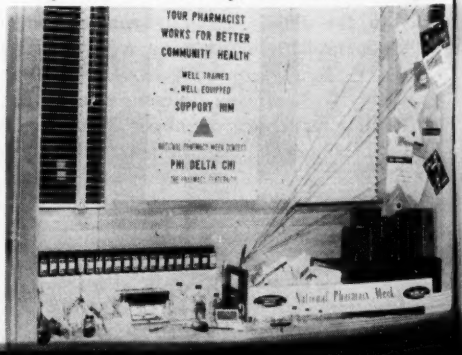
The complete list of winners in the various categories appears on page 161.



Wiley Rexall Drugs, Miami, Okla., won Certificate of Merit in Retail Pharmacy contest.

3345 Med. Group, Chanute AFB, Ill., received Certificate of Merit for Hospital exhibit.

For best Public Exhibits display, Phi Delta Chi of Arizona University, won A.Ph.A. Trophy.



Widespread Participation

Through the efforts of the Committee on Public Relations, television stations throughout the United States were supplied with slides stressing the theme "Your Pharmacist Works for Better Community Health." These slides were used extensively.

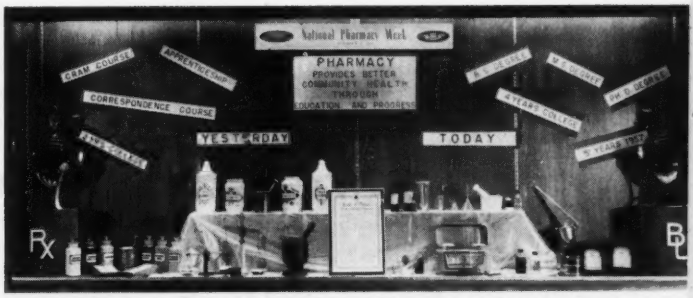
About forty state governors and mayors of cities issued proclamations giving official recognition to the observance of National Pharmacy Week.

These are but a few examples of high lights in the observance for 1953 which was commented upon editorially by the *Pacific Drug Review* as follows:

"In retrospect, the National Pharmacy Week observed recently looked to us to be one of the most successful ever held, in terms of organized activity by pharmaceutical groups. From reports coming to us from all over the Pacific slope we gain the impression that pharmacists in smaller towns as well as larger cities worked more effectively this year than ever before in obtaining public recognition of Pharmacy Week in newspapers and on radio and TV.

"This augurs well for future observances of Pharmacy Week."

Springfield, Ohio, City Hospital was awarded a Certificate of Merit in Hospital competition.



Pharmacy yesterday and today, was theme winning third prize, Certificate of Merit, for A.Ph.A. Student Branch, Butler University.

DISPLAY CONTEST

award winners

RETAIL PHARMACIES

First Prize, $200 — *Llewellyn E. F. Minnich, Minnich's Pharmacy, 501 W. Market Street, York, Pa.*

Second Prize, $100 — *John E. Donaldson, Peoples Drug Store, No. 7, 1100 G Street, N.W., Washington, D. C.*

Third Prize, $50 — *Aaron M. Libowitz, Libby Rexall Drug Store, 4901 Belair Road, Baltimore 6, Md.*

Honorable Mention:

Chas. B. Dunnington, Dunnington's Apothecary, 168 Main Street, Brockton, Mass.

John C. Wiley, Wiley Rexall Drugs, 2 S. Main, Miami, Okla.

E. T. McCool, McCool's Pharmacy, 120 W. Fourth, Joplin, Mo.

PUBLIC EXHIBITS

First Prize — *Phi Delta Chi Fraternity, College of Pharmacy, University of Arizona, Tucson, Ariz.*

Second Prize — *Student Branch, Medical College of Virginia, Richmond, Va.*

Third Prize — *Student Branch, College of Pharmacy, University of Arizona, Tucson, Ariz.*

PHARMACY COLLEGES

First Prize — *Department of Pharmacy, Philadelphia College of Pharmacy and Science, Philadelphia, Pa.*

Second Prize — *College of Pharmacy, University of Colorado, Boulder, Colo.*

Third Prize — *Student Branch, College of Pharmacy, Butler University, Indianapolis, Ind.*

HOSPITALS AND CLINICS

First Prize — *Walter M. Hartmann, Chief Pharmacist, Ellis Hospital, Schenectady, N. Y.*

Second Prize — *James M. Trotter, Chief Pharmacist, 3345th Medical Group, 3345th Technical Training Wing, Chanute Air Force Base, Ill.*

Third Prize — *Walter M. Frazier, Chief Pharmacist, Springfield City Hospital, Springfield, Ohio. Assisted by Melvin Orchen, Intern in Hospital Pharmacy*

Compounding Aids AND FORMULA MODIFICATIONS

For more than a century the American Pharmaceutical Association has kept the profession informed of progress in the art of pharmacy.

The Division of Prescription Practice at A.Ph.A. Headquarters, where Library, Laboratory and Consultants are available, provides continuous and effective aid to practicing pharmacists.

In the following pages we present Part II of a series of articles dealing with developments in formulation and compounding techniques.

PART TWO

The Effect of Solubilizing Agents on Elixirs
By A. J. MonteBovi, A. Halpern and P. Mazzola 162

Aqueous Solutions of Phenobarbital
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Solubilizing Agents FOR ELIXIRS

by A. J. MonteBovi*
A. Halpern†
P. Mazzola*

ELIXIRS ARE generally understood to be aqueous-alcoholic, aromatic, and sweetened solutions, with or without medication. They should be clear when dispensed.

One of the most commonly experienced difficulties involved in the compounding of prescriptions and formulas containing elixirs is the partial precipitation which occurs when these hydroalcoholic solutions are diluted with aqueous media, especially in the presence of salts. It was decided to investigate what effect the addition of a solubilizing agent would have on the preparation and dilution of some of the official elixirs. This idea has been applied to aromatic elixir (1), and to other food, pharmaceutical, and cosmetic products (2–12).

The following elixirs were selected for this study: compound cardamom elixir, iso-alcoholic elixir (low), iso-alcoholic elixir (high), and iron, quinine, and strychnine elixir. Tween 20[1] (polyoxyethylene sorbitan monolaurate), a nonionic surfactant, was used as the solubilizing agent.

Received from the College of Pharmacy, St. John's University, Brooklyn, N. Y., and the Research Laboratories of E. Fougera & Co., New York, N. Y.
* St. John's University, College of Pharmacy, Brooklyn, N. Y.
† Scientific Director, E. Fougera & Co., New York, N. Y.

[1] Atlas Powder Co., Wilmington, Del.

In the preparation of the elixirs, the amount of Tween 20 required in each formula is based on the following oil-Tween 20 ratio.

Essential oils	15%
Tween 20	85% v/v

Two samples of each elixir were prepared: one, employing the official method, and the other, using a modified formula containing the solubilizer. The time required for the filtration of the official elixir was noted, and a comparison was made as to the clarity, odor, taste, and stability of the official and modified products. The modified products containing the solubilizer were then (*a*) diluted with water, and (*b*) used as vehicles for medicinal salts, e. g., sodium salicylate and sodium bromide.

Iron, Quinine, and Strychnine Elixir.—Elixir A was prepared according to the N. F. IX monograph and was filtered through a Whatman No. 12 folded filter paper, using purified talc as a filtering aid. One liter of this elixir required approximately six and one-half hours to filter clear.

Elixir B was prepared with the addition of 15.6 cc. of Tween 20, and was compounded as follows: thoroughly mix the compound orange spirit with the Tween 20 and slowly add, with constant stirring, the alcohol in which the quinine hydrochloride has been dissolved. Add the strychnine sulfate previously dissolved in 10 cc. of distilled water, the ferric citrochloride tincture, and the glycerin. Then add enough distilled water to make 1,000 cc. The product was clear and required no filtration. Simple straining through a piece of surgical gauze sufficed. No differences were discernible when this elixir was compared to the official elixir, observed over a period of five months at 25°.

Elixir B was diluted with as much as ten times its volume of distilled water without cloudiness developing over a period of ten days at 25°. The test for the salt effect on the modified elixir was not carried out.

Iso-alcoholic Elixir Low.—Elixir A was prepared according to the N. F. IX monograph and was filtered through a Whatman No. 52 folded, hard filter paper. In addition to the twenty-four-hour standing period necessary, one liter of this elixir required approximately five hours to filter clear.

Elixir B was prepared with the addition of 15.6 cc. of Tween 20 and was compounded as follows: thoroughly mix the compound orange spirit with the Tween 20 and slowly add the alcohol and glycerin. Add about 400 cc. of distilled water slowly and with constant stirring. Dissolve the sucrose in the solution and then add enough water to make 1,000 cc.

Elixir B was clear and required no filtration. No differences were discernible when this elixir was compared to the official elixir, observed over a period of five months at 25°. Elixir B, diluted with ten times its volume of distilled water, developed no turbidity over a period of ten days at 25°.

To separate 15-cc. portions of Elixir B were added 4 Gm. of sodium salicylate, and sodium bromide respectively. Both salts dissolved freely by agitation; some foam resulted, but this quickly subsided. No cloudiness developed in either case over a period of ten days at 25°.

Iso-alcoholic Elixir High.—Elixir A was prepared according to the N. F. IX monograph and was filtered through a folded Whatman No. 12 filter paper. One liter of this elixir required

Authors' Summary

The use of Tween 20 eliminated the time-consuming filtrations required in the preparation of iron, quinine, and strychnine elixir, iso-alcoholic elixirs (low and high), and compound cardamom elixir.

The modified elixirs compared favorably with the official elixirs in regards to odor, clarity, color, taste, and stability.

The modified elixirs can be diluted (more than ten times their volume with distilled water) without producing cloudiness.

The modified high-alcoholic elixir can be diluted with water to give a solution having any desired percentage of alcohol, and at the same time remaining clear.

The modified elixirs showed no "salting out" of the flavoring oils upon the addition of such salts as sodium salicylate and sodium bromide.

Compounding Aids

• • • • • • • • • • • • *from preceding page*

approximately one and one-half hours for filtration.

Elixir B was prepared with the addition of 6.5 cc. of Tween 20 and was compounded as follows: thoroughly mix the compound orange spirit with the Tween 20 and slowly add, with constant stirring, 600 cc. of the alcohol in which the saccharin has been dissolved. Add the glycerin and sufficient alcohol to make 1,000 cc. The clear product was strained through a piece of surgical gauze. No differences were discernible when this elixir was compared to the official elixir over a period of five months at 25°.

Elixir B, diluted with ten times its volume of water, showed no turbidity over a period of ten days at 25°. This suggests the possibility of diluting this elixir with water to obtain any desired percentage of alcohol in the finished product, and without precipitating the flavoring oils. The test for the salt effect on the modified elixir was not carried out.

Compound Cardamom Elixir.—Elixir A was prepared according to the N. F. monograph and was filtered, with the aid of talc, through a folded No. 12 Whatman filter paper. In addition to the twenty-four-hour standing period required, the filtration of one liter of this elixir consumed approximately five hours.

Elixir B was prepared with the addition of 12.4 cc. of Tween 20, and compounded as follows: thoroughly mix the compound cardamom spirit with the Tween 20, add the alcohol and the syrup slowly and with constant stirring. Add enough distilled water to make 1,000 cc. The product was clear and required no filtration. No differences were discernible when this elixir was compared to the official elixir, over a period of five months at 25°.

Elixir B, diluted with ten times its volume of distilled water, developed no cloudiness during ten days at 25°. To separate 15-cc. portions of Elixir B were added 4 Gm. of sodium salicylate, and sodium bromide respectively. Both solutions remained clear during ten days at 25°.

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AQUEOUS SOLUTIONS OF *Phenobarbital*

by R. W. Applewhite*
A. P. Buckley*
W. Lewis Nobles†

A NUMBER of sorbitan derivatives have been used successfully to solubilize such antibacterial agents as tyrothricin, sulfanilamide, and subtilin (1). In view of this fact, the authors became interested in using such materials to prepare a "solution" of phenobarbital.

The use of such surface-active agents in the preparation of pharmaceuticals involving water-insoluble substances possesses several inherent advantages over the volatile solvents customarily used in preparing solutions of such substances. Since, in such a formulation, no volatile solvent is employed, preparative precautions are reduced accordingly. Variation of the product from batch to batch is not encountered since there is no loss due to the volatilization of the solvent during preparation or on subsequent storage. The cost of the preparation is reduced somewhat

* Senior students, School of Pharmacy, University of Mississippi, University, Miss.
† Assistant Professor of Pharmacy and Pharmaceutical Chemistry, School of Pharmacy, University of Mississippi.
[a] The sodium Sucaryl was contributed by Abbott Laboratories, North Chicago, Ill., and the Tween 80 was supplied by Atlas Powder Co., Wilmington, Del.

since the need for fairly expensive solvents is thus eliminated.

The authors thus became interested in using polyethylene sorbitan monooleate, Tween 80 (polysorbate 80 U. S. P.)[a] as the solubilizing agent (2). Although sorbitan and its derivatives have been used successfully in many cosmetic and pharmaceutical formulations for external use, comparatively little has been reported relative to the use of such substances in preparations designed for internal consumption.

Taub (3) reports the use of Sorlate (0.5 Gm. capsules of Tween 80) in the treatment of malnutrition in dosages of 6 Gm. daily. Jones and his coworkers (4) administered as much as 15 Gm. of Tween 80 daily to experimental animals for several months without any untoward symptoms or evidence of toxicity as measured by erythrocyte or white blood cell changes, liver, and kidney tests. More recently Bogash (5) reported the administration of nearly ninety pounds of Tween 80 to 609 patients in daily doses totaling 8 Gm. without noting any deleterious effects.

Consequently, the current problem resolved itself into one of pharmaceutical manipulation to arrive at a satisfactory formulation that would be sufficiently palatable for oral use. The first trial indicated that it was possible to solubilize phenobarbital in an aqueous medium by the use of Tween 80. It was apparent from this preparation that the major problem was to be one of improving the palatability of the preparation. This first solution—consisting only of phenobarbital, water, and Tween 80—caused a stinging sensation on the tongue and possessed an oleaginous odor and taste which was somewhat obnoxious. An attempt was made to mask or otherwise alter the undesirable odor and taste which Tween 80 imparted to the solution, using a variety of flavoring and sweetening agents.

Authors' Summary

Several formulas which represent aqueous solutions of phenobarbital have been presented.

Tween 80, used alone, imparted an obnoxious oleaginous odor and taste to the preparation.

The addition of glycerin, citric acid, fruit flavor, and a sweetening agent aided greatly in masking both the undesirable odor and taste of Tween 80.

Experimental

Some of the formulas used in this study are summarized in Table I.

It may be pointed out that formulas 5, 8, and 9 are, in effect, modifications of formulas proposed by Bogash (5) for masking the odor and taste of Tween 80. Prior to this publication (5) the authors had derived formula No. 2 as a palatable preparation. Following the suggestion by Bogash, a volume of glycerin equal to the volume of Tween 80 was added and formulas 4, 5, 8, and 9 were prepared. The addition of glycerin aided immeasurably in improving the taste, while the fruit flavor effectively masked the undesirable odor of Tween 80. Preparations sweetened with sodium Sucaryl were preferable—from the standpoint of taste—to those using sugar as the sweetening component.

(Continued on next page)

TABLE I.—EXPERIMENTAL FORMULAS

(Quantities in Gm. or cc.)

	Formula No.								
	1	2	3	4	5	6	7	8	9
Phenobarbital	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Tween 80	2	4	4	4	5	4	2	5	4
Sodium Sucaryl	0.3	0.5	0.5	0.5	...	0.5	0.3	...	0.5
Lemon oil	0.25	0.25	0.25	0.25	...	...	...	...	...
Peppermint oil	...	...	...	...	0.25	0.25	...	...	0.25
Methyl salicylate	...	...	...	...	...	...	0.25	...	...
Raspberry syrup, *q. s.*	...	...	...	...	...	...	...	50	...
Citric acid	0.2	0.2	...	0.2	...	...	...	0.5	...
Glycerin	...	...	...	4	5	6	...	5	5
Methylparaben	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Syrup, *q. s.*	...	...	...	...	50	...	...	...	...
Water, *q. s.*	50	50	50	50	...	50	50	...	50

Compounding Aids

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Formulas 2, 4, 8, and 9 represent the best preparations thus far obtained in this study. Each of these represents a palatable liquid preparation containing the same concentration of phenobarbital as is found in phenobarbital elixir, U. S. P.

Several different procedures were utilized in the preparation of these solutions. Each of the formulas contained in Table I was prepared by at least two of the following methods.

The first procedure involved the addition of the phenobarbital to the Tween 80. The flavoring oil was then added followed by thorough agitation. The sodium Sucaryl and citric acid, dissolved in a sufficient quantity of distilled water, were then added to the Tween 80 mixture. The volume of liquid was made up to 50 cc. with distilled water. After standing for twelve hours a clear solution resulted.

Another method involved the addition of the phenobarbital to the Tween 80 followed by the glycerin. The sodium Sucaryl, dissolved in 20 cc. of distilled water, was added to the preceding mixture, the flavoring agent was added, and the volume was made up to 50 cc. with distilled water. Again, after standing twelve hours a clear solution was observed.

Another procedure involved the use of heat, thus effecting rapid solution. The phenobarbital, Tween 80, and glycerin were mixed thoroughly. The sodium Sucaryl was dissolved in 20 cc. of distilled water, followed by the addition of the Tween 80 mixture. Enough distilled water was added to make the volume equal 50 cc. and then the mixture was heated to boiling. After cooling, the flavoring agent was added with agitation, yielding a clear solution.

In each of the methods the preservative was added as a final step. In every case in which the use of heat was not employed, a period of at least twelve hours was required to effect complete solution of the phenobarbital.

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(5) Bogash, R., *Bull. Am. Soc. Hosp. Pharm.*, **10**, 365-(1953).

Deltyl Extra INTERMEDIATE SOLVENT AND LEVIGATING AGENT

by R. J. Donovan*
L. M. Ohmart*
M. J. Stoklosa*

DELTYL EXTRA[1] is a clear, colorless, mobile liquid consisting principally of isopropyl myristate with smaller amounts of isopropyl palmitate and isopropyl laurate (1). The equivalent weight of the fatty acids present in the esters is about 238 (2). It is oil-miscible, water-immiscible, stable, and reported to have good solvent powers, low toxicity, and a low order of sensitization when applied to the skin (1). These characteristics have led to its use in cosmetic formulations during the past few years (3). In some of these formulations, Deltyl Extra has been used to replace, either in whole or in part, the vegetable oils that had been used.

This application of Deltyl Extra has led to the belief that it might prove useful in certain instances in extemporaneous prescription compounding, especially those where a vegetable oil has been used to overcome a compounding difficulty. A preliminary study has been made of the use of Deltyl Extra in some of these prescriptions. Evaluation was made on a comparative

Presented before the Section on Practical Pharmacy, A.PH.A. Convention, Salt Lake City, August, 1953.
* Department of Pharmacy, Massachusetts College of Pharmacy, Boston, Mass.
[1] Givaudan-Delawanna, Inc., New York, N. Y.

basis, the prescriptions being prepared without the use of a pharmaceutical adjunct, then with the vegetable oil or other adjunct that is commonly used, and finally, with Deltyl Extra as the adjunct. The prescriptions that were investigated may be divided into two general groups, oil solutions and ointments.

Oil Solutions.—The oil solutions were prepared by dissolving the medicinal agent in the Deltyl Extra, with the aid of gentle heat if necessary, and then bringing the solution up to volume with the vehicle. In the samples prepared for comparison, the vegetable oil used as the intermediate solvent was warmed in the same way while effecting solution, or, if no intermediate solvent was used, nearly the whole volume of the oily vehicle was warmed while attempting to effect solution.

℞ No. 1

Resorcinol	1.2
Light liquid petrolatum *q. s.*	30.0

Sig.: Apply to areas.

A vegetable oil has been commonly used in prescriptions of this type in order to effect solution of the resorcinol. It was found that the presence of 15 cc. of olive oil was not sufficient to keep the resorcinol in solution, but that 15 cc. of Deltyl Extra gave a clear, colorless solution that did not show any evidence of precipitation for a period of several weeks.

In a further study of prescriptions of this same type, where the quantity of resorcinol ranged from 0.5 to 5 per cent, it was found that 10 cc. of Deltyl Extra was sufficient to keep up to 1 per cent of resorcinol in solution, 15 cc. was adequate for up to 4 per cent of resorcinol, and that 20 cc. would solubilize 5 per cent of resorcinol in a total volume of 30 cc. When olive oil was used as the intermediate solvent, 10 cc. was sufficient to solubilize 1 per cent of resorcinol, but 15 cc. would hold less than 3 per cent.

℞ No. 2

Phenol	1.5
Light liquid petrolatum *q. s.*	30.0

Sig.: As directed.

If this prescription is compounded as written, a mass of phenol crystals separates on cooling. Since phenol is more soluble in vegetable oils than in mineral oil, the vegetable oils have been used as intermediate solvents in prescriptions of this type. It was found that 2 cc. or more of olive oil was necessary to prevent separation of the phenol, but that less than 1 cc. of Deltyl Extra was sufficient to give a clear solution that was stable for several weeks.

Authors' Summary

Difficulties encountered in the extemporaneous compounding of certain prescriptions involving the solubility of phenol and certain volatile oils in light liquid petrolatum may be overcome with the use of small amounts of Deltyl Extra as an intermediate solvent. This substance also appears to be useful in solving certain prescription problems involving cocaine, resorcinol, salicylic acid, and vanillin, but higher proportions of the solvent are required.

Experimental evidence seems to indicate that Deltyl Extra is a useful levigating agent in ointments containing coal tar or scarlet red. It is not, however, as good a levigating agent for chrysarobin as benzyl benzoate. A combination of Deltyl Extra and polysorbate 80 appears to be useful in reducing the particle size of benzoic and salicylic acids in an ointment.

Deltyl Extra was of no value as an intermediate solvent in preparing solutions of ephedrine and atropine in light liquid petrolatum. Neither was it of any value in preparing ointments containing methylrosaniline chloride or "basic" fuchsin.

℞ No. 3

Cocaine	0.6
Light liquid petrolatum *q. s.*	30.0

Sig.: Use as directed.

The concentration of cocaine in the prescription exceeds its solubility in mineral oil. Although a vegetable oil is usually used as an intermediate solvent, it was found that 10 cc. of Deltyl Extra would also solubilize the cocaine.

(Continued on next page)

Compounding Aids

••••••••••••*from preceding page*

℞ No. 4

Salicylic acid	1.2
Light liquid petrolatum *q. s.*	120.0

Sig.: Apply to scaling areas.

Replacement of at least 25 per cent of the light liquid petrolatum with Deltyl Extra was needed to keep the salicylic acid in solution. It was desirable to warm the mineral oil before adding it to the solution of salicylic acid in Deltyl Extra. This gave a very satisfactory product.

℞ No. 5

Salicylic acid	3.0
Olive oil *q. s.*	120.0

Sig.: Apply to affected areas.

Prescriptions for 1 or 2 per cent of salicylic acid in olive oil offer no compounding problem, but in those where the concentration is 3 per cent or more, crystals of salicylic acid will separate on standing. A series of samples was prepared containing varying amounts of Deltyl Extra. Precipitation occurred in those samples containing 30 per cent or less of Deltyl Extra, but no precipitate was observed in the sample containing 50 per cent of Deltyl Extra after storage for a period of three weeks.

℞ No. 6

Vanillin	0.065
Menthol	0.200
Pine needle oil	0.200
Eucalyptus oil	0.200
Light liquid petrolatum *q. s.*	30.000

Sig.: Nasal spray.

No difficulty would be encountered in compounding this prescription if it were not for the presence of vanillin, which is insoluble in the mineral oil. An attempt was made to dissolve the vanillin in the oil, using 5 cc. of Deltyl Extra in one sample, and 10 cc. in the other. The solutions remained clear upon standing for one week, after which time a slight sedimentation was observed in both samples.

℞ No. 7

Camphor	0.03
Cinnamon oil	0.06
Light liquid petrolatum *q. s.*	30.00

Sig.: Spray b. i. d.

This prescription illustrates a problem that may be encountered with certain volatile oils that are only partly soluble in mineral oil. A cloudy product may result unless an intermediate solvent is used. Admixture of 0.5 cc. of Deltyl Extra with the cinnamon oil before the addition of the light liquid petrolatum gave a clear solution.

In addition to the above prescriptions, Deltyl Extra was used in other prescriptions representing solutions of ephedrine and of atropine in light liquid petrolatum. The difficulty encountered with ephedrine is due to the presence of small amounts of water in the alkaloid, and, as might be expected from the fact that Deltyl Extra is water-immiscible, its use was of no value in overcoming the incompatibility. Neither did it appear to be of any value in dissolving the atropine.

Ointments.—Deltyl Extra was employed as a levigating agent in all but one of the ointments that were studied in this investigation. After levigation of the medicinal agent, the base was incorporated by simple dilution of the primary.

℞ No. 8

Chrysarobin	1.8
Petrolatum *q. s.*	30.0

Sig.: Apply to skin as directed.

Three samples of this ointment were prepared. Chloroform, which is used in chrysarobin ointment, U. S. P., was used as the levigating agent in the first sample; and 1.8 cc. of benzyl benzoate, previously reported as a desirable levigating agent for chrysarobin (4), was used to prepare the second sample. The third sample was made with 3 cc. of Deltyl Extra as the levigating agent. A comparison of the texture of the primaries and the finished ointments indicated that the sample made with Deltyl Extra was superior to that prepared with chloroform, but inferior to that made with benzyl benzoate.

℞ No. 9

Scarlet red	1.5
Wool fat	8.0
Petrolatum *q. s.*	30.0

Sig.: Apply.

Since the formula for scarlet red ointment, N. F., calls for the use of olive oil as a levigating agent, it is customary to use the oil in compounding prescriptions for ointments containing the dye. Accordingly, the prescription was compounded with olive oil. In a second sample, 1.5 cc. of Deltyl Extra replaced the olive oil. Immediately upon addition of the Deltyl Extra to the dye, a partial solvent effect was evidenced by

(Continued on page 173)

New A.Ph.A. Members

THE ASSOCIATION EXTENDS A CORDIAL WELCOME TO THE FOLLOWING MEN AND WOMEN WHO WERE ACCEPTED FOR ACTIVE MEMBERSHIP DURING THE MONTH PRECEDING PREPARATION OF THIS ISSUE.

NEW LIFE MEMBERS

Linn, Kennie M., Bangarapet, S. India
Plein, Elmer, M,, Seattle, Wash.
Sondern, Clarence, Mendham, N. J.

ALABAMA

Mazzara, Lillie, Birmingham
Nelson, Harold, Birmingham

ARIZONA

Hale, Orville L., Winslow
Leon, Manuel L., Tucson

CALIFORNIA

Berger, Edward B., Los Angeles
Lee, Chew-Fan, Sacramento

CONNECTICUT

Burack, David, Hartford

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Dinter, George, Gainesville

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Thomas, John R., Savannah

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Giardino, Joseph, Cranston

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Shull, D. S., West Columbia

TENNESSEE

Ray, Billy C., Newbern

TEXAS

Gunnarson, Christian W., Corpus Christi
Hall, Carl L., Jr., Dublin
Newton, Thomas W., Houston
Yotive, Simon P., Dallas

VIRGINIA

Curtice, Cooper G., Alexandria
Mattichak, David, Newport News

WASHINGTON

Carpenter, H. Randall, Seattle
Takahashi, Eveline M., Seattle

WISCONSIN

Mann, Jean, Milwaukee
Piechowski, Richard J., Madison

POSSESSIONS

Tirado G., Esperanza, Rio Piedras, Puerto Rico

Deceased Members

Brown, Henry, Scranton, Pa., Feb. 27, 1954
Eatlack, Walter F., Philadelphia, Pa.
Hogg, George T., Yreka, Calif.
Kendall, Blakley A., Hartman, Ark., Dec. 23, 1953.
Krumwiede, Howard Andrew, New Brunswick, N. J.
Middlekauff, H. P., Hagerstown, Md., Jan. 11, 1954
Motley, Robert W., Alexandria, Va., Oct. 30, 1953
Nollen, Garrett H., Newton, Iowa
Phelan, J. W., Pleasant Ridge, Mich., Dec. 1953
Powell, William Cottingham, Salisbury, Md. (Life Member), Nov. 24, 1953
Riegelman, Max, Milwaukee, Wis., June 17, 1953
Tischbein, Harry J., Cincinnati, Ohio

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FROM THE SECRETARY'S DIARY FOR FEBRUARY, 1954

2nd Much of today spent with Committees of the A.PH.A. Council in preparation for the meetings scheduled for the next three days. Council Chairman Jenkins arrived early to review laboratory and publication affairs. President Franzoni came to review property and fund matters. Leib Riggs, chairman of the House of Delegates, was also an early caller to go over House committee assignments and, in the late afternoon and evening, meetings of the Committees on Finance and Publications, presided over by Henry Gregg and Don Francke, respectively.

3rd All day meeting with the A.PH.A. Council at the Washington Hotel, with all in attendance but Martin Adamo, who is sick. Covering much ground in the planning for the Interprofessional Conference to be held tomorrow.

4th A gratifying number of high-level representatives of medicine, dentistry, nursing, public health, hospitals, veterinary medicine, and all branches of pharmacy gathered under A.PH.A. auspices at the National Academy of Sciences' lecture room to explore areas of cooperation between the professions. In the middle of the day, a buffet luncheon at the American Institute of Pharmacy and then an afternoon of further discussion which led to agreement to name a temporary committee to proceed to further study of possible means of working together. In the evening, continuation of meetings of the A.PH.A. Council, with much discussion of international pharmacy.

5th Continuation of the A.PH.A. Council meetings, with emphasis on financial matters, adoption of the annual budget and approval of plans for the Boston Convention and establishment of dates for future annual meetings in the spring.

8th Last Saturday and Sunday attending meetings of the National Conference of State Pharmaceutical Association Secretaries where the discussions covered every phase of current pharmaceutical activities although some news reports would give the impression that the only item considered was a previously discarded plan emanating from the Virginia Secretary for converting the A.PH.A. into an exclusive "Federation of State Pharmaceutical Associations." At noon today lunching with the Alabama delegation in the House of Representatives as the guest of Alabama Ph. A. Secretary Thelma Morris Coburn, who is a great favorite with her Alabama congressmen.

9th This afternoon an important meeting with Surgeon General Scheele of the U. S. Public Health Service on the International Pharmacopoeia. Principal topic for discussion by representatives of U.S.P., N.F., P.H.S., A.D.M.A., and A.PH.A. was a procedure for making galley proofs of Ph.I. available to interested American pharmaceutical groups for study in advance of publication.

17th Yesterday meeting with American Social Hygiene Association representatives in the annual session of the Joint Committee of the A. PH.A. and A.S.H.A., which has brought about cooperation of pharmacists and pharmaceutical associations throughout the United States with the A.S.H.A. in the continued effort to reduce venereal disease. This evening attending testimonial dinner to Hester B. Jones, retiring A.PH.A. librarian, who has served the ASSOCIATION long and faithfully.

19th All day in session with the Board of Directors of the American College of Apothecaries at the Conrad Hilton Hotel in Chicago. This is a hard-working group of practical professional idealists, sparked with dynamic leadership, and highly alert to the interests of the dispensing pharmacist.

20th All day with the Policy Committee of the A.PH.A.-A.S.H.P. Division of Hospital Pharmacy at the Drake Hotel in Chicago establishing procedures for some of the more pressing problems confronting hospital pharmacy today.

23rd Now back in Washington with yesterday spent in working out the details for supplying proofs of the International Pharmacopoeia to selected experts and today catching up with delayed correspondence and staff problems.

27th Yesterday and today meeting with the Executive Committee of the American Society of Hospital Pharmacists which is a splendid working group, not only keenly interested in promoting hospital pharmacy but deeply conscious also of their responsibility for the advancement of pharmacy as a whole.

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EARLY AMERICAN PHARMACIES

BY GEORGE B. GRIFFENHAGEN*

XIX. PHOENIXVILLE APOTHECARY SHOP

Address: The Henry Ford Museum and Greenfield Village, Dearborn, Mich.

Hours Open: Weekdays: 9:00 A.M. to 5:30 P.M. Saturday, Sunday and Holidays—9:00 A.M. to 6:00 P.M.

Admission: (Admission to grounds) $0.85.

Floor Space: Approximately 324 square feet (in a 13½ x 32-foot gray clapboard building combined with the Phoenixville Post Office).

Owner: The Henry Ford Museum and Greenfield Village.

History: The Phoenixville, Conn., Post Office and Apothecary Shop was built about 1835. The apothecary section of the building was operated by Lorenzo Bullard; the post office was kept by Joseph Lathem in the north end of the building. Apparently Lathem and Bullard had distinctly opposite political views and there was a constant argument between the two men which was not alleviated by the town citizenry who would drop by to await mail and pass the time of day. The building was purchased from the Lathem family by Henry Ford in 1928, and it was re-erected in Greenfield Village and opened for exhibition in 1929.

Description: In the Apothecary section are shelves of bottles. Back of the wood stove is a case of drawers filled with herbs. Atop the case is a jar of leeches, and tall show-globes. On the left is a counter with a partition at one end, back of which the apothecary used as his prescription counter. A small glass peephole in the partition enabled him to keep an eye on customers.

References: *Greenfield Village Guide Book;* The Edison Institute, Dearborn, Mich., 1951, 54 pp.

XX. SPRING MILL VILLAGE APOTHECARY SHOP

Address: Spring Mill Village State Park, Mitchell, Ind.

Hours Open: Daily 8:30 A.M. to 5:00 P.M.

Admission: (Admission to Village) $0.12.

Floor Space: 120 square feet (separate building).

Owner: Department of Conservation, State of Indiana.

History: Spring Mill, Ind., was founded by Samuel Jackson in 1814 when he settled in the wilderness of Indiana and built a small grist mill. Village was in its heyday in the 1850's until the railroad by-passed it; then the downfall started until it was finally abandoned. The village was reconstructed by the Indiana Department of Conservation as a central part of the Spring Mill State Park commencing in 1932. Eli Lilly and Company donated $1,000 for the restoration of the old village apothecary shop.

References: Hepburn, A. H., *Saturday Evening Post*, June 12, 1943. Guernsey, E. Y., "Indiana's Pioneer Village and Apothecary Shop," *Tile and Till*, 19, 55(1933).

* Associate Curator, Division of Medicine and Public Health, Smithsonian Institution, Washington, D. C., and Consultant to the A.Ph.A. Museum. The 19th and 20th of a series of monographs describing apothecary shop restorations on exhibition in the United States.

Compounding Aids

• • • • • • • • • • • • • *from page 168*

a spreading of a red color throughout the oily liquid. This phenomenon was not as pronounced when olive oil was used. The primary prepared with Deltyl Extra was smoother in texture than that prepared with olive oil. The difference in texture, although still apparent, did not appear to be quite as pronounced after the primary had been diluted with the base.

Deltyl Extra was also used in the preparation of other ointments containing methylrosaniline chloride and "basic" fuchsin. No solvent effect was apparent when these dyes were levigated with it. There seems to be no advantage, therefore, in using Deltyl Extra to solve any compounding difficulties created by the presence of either of these two dyes in ointments formulated with greasy vehicles.

℞ No. 10

Crude coal tar	2.0
Zinc oxide	2.0
Starch	5.0
Petrolatum *q. s.*	30.0

Sig.: Apply to rash daily.

The usual procedure for preparing this ointment is to mix the coal tar and the zinc oxide. The mixture is levigated with the petrolatum, and then the starch is incorporated. At best the resulting product feels slightly gritty when applied. If the coal tar is first levigated with 2 cc. of Deltyl Extra, the resulting ointment has a much better texture with no apparent grittiness when rubbed on the skin. The color is slightly lighter than that of the ointment prepared without the Deltyl Extra.

℞ No. 11

Salicylic acid	1.0
Benzoic acid	1.0
White petrolatum *q. s.*	30.0

Sig.: Apply at night.

Since it has been reported that the use of a combination of isopropyl palmitate and polysorbate 80 in certain alcoholic lotions was of value in keeping salicylic acid in apparent solution after evaporation of the vehicle (5), the use of a similar combination as a "solvent" for salicylic and benzoic acids in ointments was investigated. In compounding the prescription, the salicylic and benzoic acids were added to a mixture of 3 cc. of Deltyl Extra and 1.5 cc. of polysorbate 80, and the mixture was warmed gently until a clear product was obtained. In order to determine whether crystallization would take place, the liquid was allowed to stand at room temperature. Only a faint opalescence was observed after several hours. The liquid was then simply incorporated with the white petrolatum. No evidence of separation was noted after the ointment was stored for several weeks. It should be emphasized that the apparent alteration in the particle size of the active ingredients may increase their therapeutic activity. Therefore, further evaluation and clinical study would be necessary before such a procedure could be recommended in extemporaneous compounding.

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(2) Newburger, S. H., *J. Assoc. Offic. Agr. Chemists*, **30**, 685(1947).
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BUGBEE TO HEAD HIF

George Bugbee, for the past eleven years executive director of the American Hospital Association, Chicago, has been appointed president of Health Information Foundation. He succeeds the late Admiral W. H. P. Blandy, who held the position from 1950 until his death, January 12, 1954.

In issuing the announcement, John G. Searle, president of G. D. Searle & Co., Chicago, board chairman of the Foundation, which has its headquarters at 420 Lexington Avenue, said:

"Health Information Foundation is endeavoring to fulfill some high standards of public service through an objective program of fact-finding and public information. The rare combination of experience and leadership in the health field which Mr. Bugbee brings to his new position will be extremely valuable to the Foundation in its work. As head of the organization which represents 5,200 hospitals of the nation, he has had major responsibility for a broad program of improvement related to the cost and distribution of hospital care.

"One of the Foundation's chief concerns," Mr. Searle stated, "is the cost of medical care and what can be done to improve the country's facilities and services to provide better health protection for all its citizens. Under Mr. Bugbee's direction the Foundation will, I am sure, be able to render distinctive service toward the solution of health problems that are the concern of every American family."

✦ ✦ ✦

Hydroxocobalamin, one form of anti-anemia vitamin B_{12}, was found in mice to act as a swift antidote to cyanide poisoning.

Hospital Pharmacy

Policy Committee Meets

The Policy Committee of the *Division of Hospital Pharmacy* met at the Drake Hotel in Chicago on Saturday, February 20. Those present included Allen V. R. Beck, Grover C. Bowles, W. Arthur Purdum, and Don E. Francke representing the American Society of Hospital Pharmacists; Robert P. Fischelis and Glenn L. Jenkins, representing the AMERICAN PHARMACEUTICAL ASSOCIATION; Dr. Robert Cadmus representing the American Hospital Association; and Sister Mary Stephanina, representing the Catholic Hospital Association. The Policy Committee acts in an advisory capacity in matters concerned with hospital pharmacy practice and provides guidance for the long range objectives of the Division.

Pharmacy and Hospital Accreditation

Particular attention was given to further implementation of the Minimum Standard for Pharmacies in Hospitals and the accreditation program under the *Joint Commission on Accreditation of Hospitals*. Consideration was given to an educational program to determine what constitutes adequate pharmaceutical service in the various types of hospitals, and check lists are being developed as guides to self evaluation. Continued efforts will be made to work with the Joint Commission when a *new* standard for accrediting the Pharmacy Department is considered.

Also in line with the accreditation program is the development of hospital formularies. The Committee therefore gave consideration to this problem and it was agreed that hospital formularies should be developed in carrying out sound therapeutic practices in hospitals. Each individual hospital should have its own drug list with the Pharmacy and Therapeutics Committee responsible for the selection of drugs to be included. Guides for setting up hospital formularies were outlined in order that there can be a better understanding of the purpose and use as well as the need for certain essential information.

Education and Training

The current status of education and training in hospital pharmacy was considered in the following categories:

1. Colleges of Pharmacy offering graduate courses in hospital pharmacy (including names of hospitals where internship is offered in combination with graduate work).
2. Institutions offering an internship in hospital pharmacy not combined with graduate work in a school.
3. Schools offering undergraduate work in hospital pharmacy.

Special attention was given to development of the internship programs and the separation of the hospital training from the academic work. Tentative plans were made to approve the hospital training or internships, now in operation, through a questionnaire. Inspections would be made if necessary.

The Policy Committee approved holding the 1955 Institute on Hospital Pharmacy at the University of Chicago and plans were reviewed for the 1954 Institute scheduled for the week of June 28 at the University of Connecticut. Consideration was also given to the trend toward development of the refresher courses on a local and regional basis.

Other subjects covered during the discussions included the actions taken at the 1953 annual meetings of the organizations represented, work of the Joint Committee of the American Society of Hospital Pharmacists and the American Hospital Association, drug provisions in voluntary health insurance plans, and routine Division activities.

ASHP Executive Committee Meeting

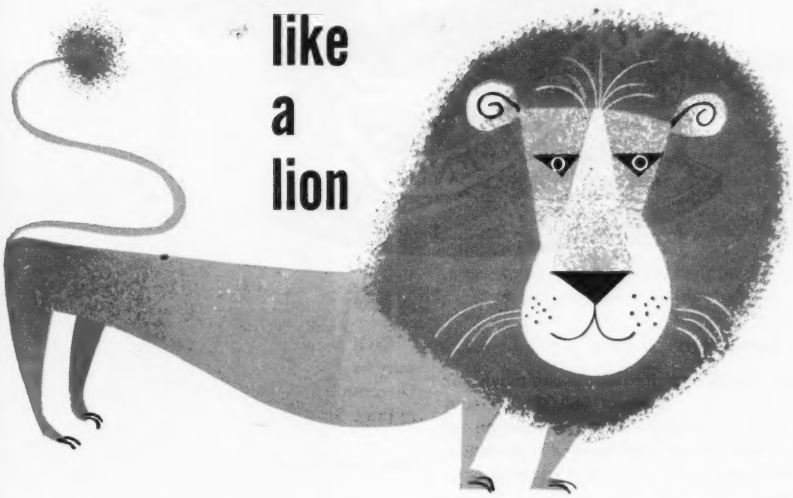
The Executive Committee of the American Society of Hospital Pharmacists met in Washington, D. C. on February 26 and 27. All members of the Committee were present including President Allen V. R. Beck, Indianapolis, Ind.; Vice-President Adela Schneider, Houston, Texas; Secretary Gloria Niemeyer, Washington, D. C.; Treasurer Anna D. Thiel, Miami, Fla.; Robert Bogash, New York, N. Y.; Walter Frazier, Springfield, Ohio; J. Solon Mordell, Washington, D. C.; Grover C. Bowles, Rochester, N. Y.; and George F. Archambault, Washington, D. C. Also attending the sessions were Dr. Robert P. Fischelis, secretary of the A.PH.A. and Dr. Don E. Francke, editor of the Society's publication.

Among the subjects considered at the meeting were future plans for the development of Society activities, and the work of the Society's 38 affiliated chapters.

Houston Society Affiliates

The Houston Area Society of Hospital Pharmacists has been accepted as an affiliate of the American Society of Hospital Pharmacists. On applying for affiliation, the group presented its Constitution and By-Laws, a record of its meetings, and a list of 21 members, all who were members of the A.PH.A. and ASHP.

in like a lion



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BRAND OF OXYTETRACYCLINE

Broad-spectrum antibiotic activity plus wide-age-range taste appeal. Supplied: 1 oz. bottles containing 1.5 Gm. Terramycin (250 mg. per 5 cc. teaspoonful). Shelf packages of 10.

Combandrin*

PROTEIN ANABOLIC STEROID HORMONE COMBINATION

Potent androgen-estrogen action for tired, elderly and convalescent patients. Supplied: Single-dose Steraject® disposable cartridges and 10 cc. multiple-dose vials (1 mg./cc. estradiol benzoate, U.S.P.. and 20 mg./cc. testosterone propionate, U.S.P., in sesame oil).

A Pfizer Syntex Product

*TRADEMARK

Pfizer

PFIZER LABORATORIES, *Brooklyn 6, N. Y.*
Division, Chas. Pfizer & Co., Inc.

Red Cross Campaign

The annual month-long Red Cross campaign got under way March 1. It seeks $85,000,000 and 30,000,000 adult members. A major portion of this money—about 40 per cent—and a majority of Red Cross manpower will be devoted to services to the armed forces again this year.

Currently serving with the armed forces in this country and overseas is a paid Red Cross staff of 2,654. Their efforts are augmented by thousands of Red Cross volunteers who serve in military and Veterans Administration hospitals. In Red Cross chapters a monthly average of 11,400 Home Service workers provide aid and counsel to service and veteran families.

First Aid Kit Revised

Civil Defense Technical Bulletin TB-11-12 announces substitutes for certain items listed in the Civil Defense Household First Aid Kit, giving the common trade names for drugs listed as being desirable to have in the kit.

The substitute first aid items listed by their common trade names are selected from those products acceptable to the Council on Pharmacy and Chemistry of the American Medical Association.

The first ten items listed, or their substitutes, can be purchased at most local pharmacies. The remaining eleven items can be taken from household supplies or, if necessary, purchased from other sources.

The contents of the first aid kit may have to be used to give emergency first aid to casualties during a natural disaster or an enemy bombing. First aid may have to be given to casualties before they are removed to a civil defense first aid station or before a civil defense first aid team can reach the injured. This may take some time.

The first aid kit described in this technical bulletin gives the tools that are needed. It does not tell how the tools are to be used. That is a matter of training and knowledge which can be learned by taking the American Red Cross Standard First Aid Course or the one given by the Bureau of Mines.

Civil Defense Technical Bulletin TB-11-12 is for sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. —Price $1.50 per 100 copies.

Gas and Germ Attacks

Concern over chemical gas and disease germ attack in addition to atomic and hydrogen bomb attacks is evident in civil defense circles.

The need for better means of detecting and identifying the chemicals, such as nerve gases, and disease germs has been stressed by Col. James H. Defandorf of the Federal Civil Defense Administration, Washington, D. C., and Dr. John J. Phair, professor of preventive medicine in the University of Cincinnati College of Medicine.

Advance warning of a gas attack will probably not be possible, Col. Defandorf declared. Procedures for detecting gas attacks while in progress and for identifying the specific chemicals have been devised or are under development. But these have such a high security classification that they are not now available at state and local civil defense levels.

Dr. Phair stated, "Efforts can be directed only at minimizing rather than preventing casualties."

Some key civil defense workers may this year get an unclassified one week's course, with field exercises, in chemical warfare defense. A request for the Army Chemical Corps to give this has been made, Col. Defandorf reported, and it "appears probable" it will be approved by the Department of Defense.

VA Education Budget

The Veterans Administration budget request for education and training is $458,500,000 for fiscal 1955. This is based on an estimate of 400,000 veterans of which, it is estimated, 168,000 will be enrolled in institutions of higher education. No change is proposed in the present $1.00 per month per veteran paid to the institution to reimburse it for administrative costs. The VA estimate of veterans in institutions of higher education for the fiscal year 1955 is only 32,000 as compared with 136,546 in December, 1953.

your basic profit-builder in 1954
More than half of all prescriptions today are for antibiotics*...
Antibiotics bring in more dollars than any other Rx item...
*WELCH, H.: DRUG TRADE NEWS 28:75 (NOV. 9) 1953.
keep adding to your profits with
Tetracyn
Brand of tetracycline hydrochloride
BASIC among broad-spectrum antibiotics
TETRACYN TABLETS (sugar coated) 250 mg. Bottles of 16 and 100
100 mg. Bottles of 25 and 100
50 mg. Bottles of 25 and 100
TETRACYN INTRAVENOUS Vials of 250 mg. and 500 mg.
TETRACYN ORAL SUSPENSION (amphoteric) (chocolate flavored) Bottles of 1.5 Gm.
Tetracyn
250 Mg.
in the distinctive black-and-yellow package
no other like it!
These products backed by an aggressive, large detailing force ... heavy journal and direct-mail promotion... be ready for sales-boosting demand... right from the start!
Rx
536 Lake Shore Drive, Chicago 11, Illinois

FDA CRIMINAL PROSECUTION ACTIONS TERMINATED IN JANUARY

Over-The-Counter Sales of Prescription Drugs

Denver, Colo.—Refilled prescriptions for amphetamine and hormones without physicians' authorizations. One defendant fined $2,000 and the other, $300; each placed on probation for three years.

Denver, Colo.—Sold and refilled prescriptions for amphetamine, barbiturates, and hormones without physicians' authorizations. Three defendants: one fined $2,000 and placed on probation for three years; one fined $300 and placed on probation for three years; and one fined $300.

Washington, D.C.—Sold barbiturates without physicians' prescriptions. Sentencing deferred pending report from probation officer.

Hammond, Ind.—Sold amphetamine without physicians' prescriptions. Sentencing deferred pending report from probation officer.

Paris, Ky.—Sold thyroid, penicillin, Donnatal, and Banthine without physicians' prescriptions. Three defendants: one fined $300 and court costs of $35, and the other two fined $100 each.

East Orange, N. J.—Refilled prescriptions for amphetamines and barbiturates without physicians' authorizations. Fined $300.

Hugo, Okla.—Sold sulfonamides and Acetabar without physicians' prescriptions. Fined $150.

Hugo, Okla.—Sold sulfonamides and Acetabar without physicians' prescriptions. Two defendants fined $125 each.

Oklahoma City, Okla.—Sold *d,l*-desoxyephedrine HCl and amphetamine without physicians' prescriptions. Sentencing deferred pending report from probation officer.

Adulterated and Misbranded Drugs and Devices

American Bio-Chemical Corp., Los Angeles, Calif.—Neo-Life B-12 #3, Livo-12-Crude, and Neo-Life B-12 were contaminated with living microorganisms. Firm fined $400; 3 individuals fined $50 each.

The complete
lipotropic therapy
methischol
in atherosclerosis
coronary disease
diabetes
obesity
u.s. vitamin corporation
Casimir Funk Laboratories, Inc. (affiliate)
New York 17, N.Y.

Ross-Whitney Corp., t/a Heart Pharmaceutical Co., Los Angeles, Calif.—The strength of dexedrine-amphetamine sulfate tablets differed from that which they were purported to possess and they were sold under the name "Dexedrine." Firm fined $200; two individuals fined $100 each.

Master Appliances, Inc., Marion, Ind.—Labeling of Master Violet Ray devices contained false and misleading therapeutic claims. Fined $2,000 and court costs of $47.80.

Indian Arrow Herb Products Co., Cincinnati, Ohio—Labeling of herb preparation contained false and misleading therapeutic claims that the drug would be an adequate and effective treatment for all forms of rheumatism, tuberculosis, blood disorders, kidney and liver afflictions, syphilis, and tumors; labeling failed to bear adequate directions for use in the treatment of the diseases and conditions for which the drug was recommended. Two defendants fined $100 each.

INTERNATIONAL OPIUM AGREEMENT

The Netherlands have followed 35 other countries including the United States, in signing the United Nations Opium Protocol. The treaty, which may be signed by members of the U. N. and any non-member state invited to do so, is entitled "Protocol for Limiting and Regulating the Cultivation of the Poppy Plant, the Production of, International and Wholesale Trade in, and Use of Opium." The Protocol does not restrict the signatories from producing opium for their own medical and scientific needs, but it entitles only Bulgaria, Greece, India, Iran, Turkey, the U.S.S.R., and Yugoslavia, to export opium. Bulgaria and the U.S.S.R. have not signed the Protocol.

ST. JOHN'S SILVER ANNIVERSARY

St. John's University College of Pharmacy has announced the celebration of its Twenty-fifth Anniversary on April 24 and 25, 1954.

In honor of the occasion, honorary degrees will be awarded to Jasper Kane, vice-president and director of research, Chas. Pfizer & Co., and Dr. Hugh C. Muldoon, dean, College of Pharmacy, Duquesne University. Mr. Kane will speak at the Academic Convocation.

A panel symposium on "Pharmacy as a Profession," with such distinguished representatives from industry, education and retail pharmacy as Mr. Thomas J. Winn, vice-president and general manager, Chas. Pfizer Laboratories, Dr. Lloyd E. Blauch, chief for education in the Health Professions, Dr. Robert P. Fischelis, secretary and general manager, the AMERICAN PHARMACEUTICAL ASSOCIATION, Rev. Bernard E. Tierney, C.M., associate professor of ethics, St. John's University, College of Pharmacy, and Dr. Frederick D. Lascoff, practicing pharmacist, will be included in the program. This will be followed by the showing of a film on "Radio-isotopes—Their Application to Humans," produced by Mr. Joseph Hackel, president of the Medical Film Guild.

THIS ADVERTISEMENT is part of a continuing Merck program to build increased physician support for all brands of ethical vitamin specialties. The campaign is running in leading medical journals.

"... and be sure to take your VITAMINS!"

Peptic ulcer often interferes with the ingestion of a balanced diet, and the period of tissue repair further increases vitamin requirements. Established therapy, including restrictive diets, antacids, and surgery, also must consider the problem of vitamin intake and absorption. A balanced vitamin preparation is a dependable means of assuring adequate intake of the essential nutritional factors.

MERCK & CO., INC., RAHWAY, N. J.—as a pioneer manufacturer of Vitamins—serves the Medical Profession through the Pharmaceutical Industry

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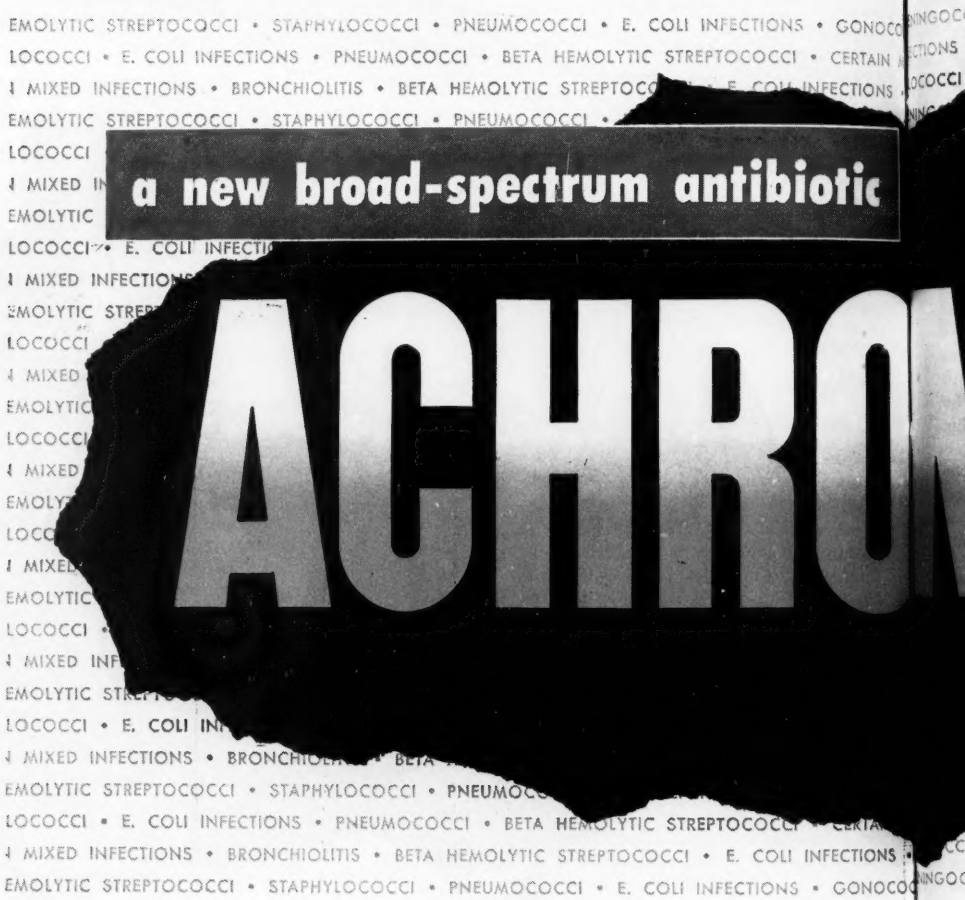

ACHROMYCIN, the new broad-spectrum antibiotic, has definitely fewer side effects associated with its use.

ACHROMYCIN is now available in a wide range of forms for oral and intravenous use for children and for adults. New forms are being prepared as rapidly as research will permit.

Exceptionally strong direct-mail and ethical advertising are supporting this new and notable antibiotic. It is being heavily detailed to the medical profession.

DOSAGE FORMS: **TABLETS:** 250 mg. • **SPERSOIDS*** Dispersible Powder: 50 mg. per teaspoonful (3.0 Gm.)
ORAL SUSPENSION: Cherry flavor, 250 mg. per 5 cc. teaspoonful • **CAPSULES:** 250 mg., 100 mg., and 50 mg.
PEDIATRIC DROPS: Cherry flavor, 100 mg. per cc. • **INTRAVENOUS:** 500 mg., 250 mg., and 100 mg.

Definitely fewer side effects
A long line of dosage forms
Consistent ethical promotion

Lederle

*Reg. U. S. Pat. Off.

LEDERLE LABORATORIES DIVISION AMERICAN Cyanamid COMPANY Pearl River, New York

℞ Information Service

• • • • • • • • • • • • *from page 134*

Encapsulating Machines—Hand Operated

Could you give me any information about the availability of hand-operated gelatin capsule-filling machinery?—J. A. G., New York, N. Y.

Hand-operated gelatin capsule-filling machines can be obtained from the following supplier of pharmaceutical manufacturing equipment: Pharmaceutical and Chemical Industrial Supply Corporation, Division of American Roland Corporation, 16 Hudson Street, New York 13, N. Y.

Sunscreen Cream

Could you please send me a formula for a suntan preparation in the form of a cream?—E. F., Wash., D. C.

The following product is recommended by Dr. Alexander A. Fisher (*Arch. Derm. and Syphil.*, **68**, 728, Dec., 1953):

Paraaminobenzoic acid	4.5
Distilled water	6.0
Hydrophilic ointment	6.0
Vanishing cream to make	30.0

Levigate the paraaminobenzoic acid with water to a smooth paste, add the hydrophilic ointment, and finally add the required amount of vanishing cream. The vanishing cream may be that of any reputable cosmetic firm.

The use of paraaminobenzoic acid is said to yield a much less sensitizing product than is obtained with the esters of the acid.

Raspberry Vinegar

The following mixture is prescribed by a British physician for the treatment of laryngitis: olive oil, raspberry vinegar, equal parts. What is raspberry vinegar?—M. R., Washington, D. C.

Raspberry vinegars can be prepared according to the following formulas given in *Chemist and Druggist* (London), *Pharmaceutical Formulas*, 12th ed., vol. 1, p. 3 (1953):

I

Raspberry juice	3
Acetic acid	1
Distilled water	6

II

Raspberry syrup	10
Acetic acid	4
Distilled water	18

The preparations can be made with malt vinegar if desired, a darker preparation resulting.

STUDENT BRANCHES

The **Alabama Polytechnic Institute Branch** has just completed a successful membership drive which resulted in the addition of 88 new members. The drive was culminated on January 18 with a meeting held in the ballroom of the new Student Union Building. Some 125 were in attendance to hear Dr. Rehling, Alabama State toxicologist, who discussed "The Pharmacological Actions of Poisons," using case histories to illustrate his points.

Over 200 students, alumni, faculty members, and guests attended the banquet given by the **University of Colorado Branch,** which was held December 5, 1953, at the University Memorial Center. One of the principal speakers was Dr. Charles Poe, dean of the College of Pharmacy, and master of ceremonies was George Anderson, president of the organization. A dance followed the banquet.

The **Drake University Branch** reports that Ann C. Nugent has succeeded to the office of secretary of the Branch for 1954.

At the February 11 meeting of the **Howard College (Ala.) Branch,** Tom Novak, branch president, presided and Terry Nichols, chief pharmacist at the local Veterans Administration Hospital, spoke on the subject, "Hospital Pharmacy."

The January 25 meeting of the **Southwestern State College Branch** was given over to a talk by Dr. Bernard DeBunsen, president of Maharare College, Uganda, British East Africa, who discussed the establishment, organization, and functions of the Maharare Medical School. Branch President John Little officiated at the meeting at which approximately 55 members attended.

Following a lengthy business meeting of the **Fordham University Branch** on February 8, the gathering of some 75 was entertained with a motion picture showing the various operations that go into the manufacturing of *Tek* brushes. Branch President James Robertson officiated.

Branch President Marvin Ganek officiated at the February 18 meeting of the **Rutgers College of Pharmacy Branch,** at which Dr. Morton J. Rodman

MASSENGILL PRESCRIPTION SPECIALTIES

THESE SPECIALTIES HAVE WIDE ACCEPTANCE. BE SURE TO KEEP ADEQUATE STOCKS.

ADRENOSEM

The systemic hemostat 1 cc. 5 mg. Ampuls

1 mg. and 2.5 mg. Tablets–bottles of 50

BRONIACIN

Bromide therapy without bromism.

Tablets: bottles of 100, 1000

Elixir: gallon and pint

SALCEDROX®

Massive salicylate dosage with minimum gastric irritation.

Tablets, bottles of 100 and 1000

MASSENGILL® POWDER

The standard nonirritating acid douche.

Bottles: 3 oz., 6 oz., 1 lb., 5 lb.

SEMHYTEN®

Coordinated therapy for hypertension.

Capsules: Bottles of 100, 500, 1000

to send prescriptions to your pharmacy

MASSENGILL is:

ADVERTISING IN THE LEADING MEDICAL JOURNALS

Over 16 million total circulation of ads for 1954.

PHYSICIAN MAILINGS

Weekly mailings to general practitioners and specialists.

DETAILING

A staff of 346 competent detail salesmen visits physicians regularly in every county in the United States.

FILE CARDS AND LITERATURE AVAILABLE FOR YOUR REFERENCE LIBRARY. ASK YOUR MASSENGILL REPRESENTATIVE OR WRITE TO THE NEAREST BRANCH.

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Obesity Control Tablets and the 60-10-70 Diet

Bottles of 100, 500, 1000 tablets

AMINODROX®

Full therapeutic dosage of oral aminophylline.

Tablets Aminodrox and Tablets Aminodrox-Forte, plain or with 1/4 gr. Phenobarbital

Bottles of 100 and 1000

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The iron reconstructive tonic

Liquid: gallons, pints, 8-oz.

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was the guest speaker. Dr. Rodman, who is associate professor of pharmacology at the College, discussed the fundamentals of hypnosis and gave clinical examples of its use in therapeutics.

"Antibiotics" was the topic of Fred Nehring, local representative of E. R. Squibb & Sons, at the December 2, 1953, meeting of the **St. Louis College of Pharmacy and Allied Sciences Branch.** A motion picture on "Penicillin Therapy" was also shown. Branch President James Ellis presided and approximately 275 were in attendance.

Four hundred students attended the February 15 meeting of the **St. John's University Branch,** which was presided over by Branch President Vincent J. Lynch. The meeting was given over to a student debate on the installation of self-service counters in pharmacies. Messrs. Raylman and Conti took the affirmative and Hammarth and Attanasio, the negative. The arguments pro were: ease of operation, aid to impulse buying, more time to devote to prescriptions, and greater opportunity to keep abreast of modern trends. For the negative side it was contended that self-service results in loss of personal contact with customers and, hence, loss of trade. Other points made were that self-service resulted in greater losses due to pilfering; it deprived pharmacies of professional atmosphere, and rendered the public a disfavor due to the average customer's ignorance of medicaments.

The **New England College of Pharmacy Branch** met on February 18. The meeting was presided over by Branch President Leon Goldstein and some 150 were in attendance. The principal speaker was Dr. Herbert Raubenheimer, professor of pharmacy at the College, whose topic was "Improvement of the Prescription Department." Dr. Raubenheimer drew a comparison between pharmacy as it was practiced in the early part of this century and present-day practice.

"Professionalism" awards were given to two of the College's professors who have done much to inculcate professional attitudes in the pharmacy students. Those cited were Professors A. J. Eusebi of the Chemistry Department and O. James Inashima of the Materia Medica Department.

Glen Gossage, president of the **State College of Washington Branch,** presided over the February 16 meeting of that unit. Principal speakers were Messrs. Pearce and St. Dennis of the Spokane, Wash., Branch of McKesson and Robbins, who discussed "Establishing Credit in a Drug Store."

The **Ferris Institute Branch** met on February 10. Approximately 30 members attended the meeting which was presided over by Branch President James Waun. At this time tentative plans were made for a banquet to be held in the spring on the eve of the annual pharmacy ball. The meeting concluded with a showing of a motion picture on drugstore departmentalization.

Newell Stewart, president-elect of the AMERICAN PHARMACEUTICAL ASSOCIATION, was honored on February 19 at a banquet given by the **University of Arizona Branch.** Particular tribute was paid the guest of honor by Troy C. Daniels, dean of the College of Pharmacy of the University of California, who suggested that the best accolade that could be given Mr. Stewart would be demonstrated by every Arizona pharmacist's joining the A.PH.A.

The principal speaker at the February 18 meeting of the **University of South Carolina Branch** was Mr. Lyde, local representative of Parke-Davis and Company who briefed the gathering on their forthcoming trip to his company's plant in Detroit.

Branch Secretary Robert L. Sawyer reported a paid membership in the Branch of 125.

The **Idaho State College of Pharmacy Branch** will sponsor a dinner on March 26 in Pocatello, Ida. The guest speaker will be David Stiles, research director of market development of Abbott Laboratories. His topic will be "Your Prescription Department."

LOCAL BRANCHES

A joint dinner meeting of the **Philadelphia Branch** of the A.PH.A. and the **Pennsylvania Association of Dental Surgeons** was held on March 10 at the Drake Hotel, Philadelphia, Pa.

President John Martin officiated at the January 28 meeting of the **Puget Sound Branch** of the A.PH.A. which was held at the U. S. Public Health Service Hospital, Seattle, Wash. Guest speaker was H. A. Hendricks, local trust company officer, who discussed "The Importance of a Will."

The 1954 officers of the **Greater Los Angeles Branch** of the A.PH.A. are as follows: Dr. Roger T. Erickson, president; Henry Herman, vice-president; Alice Appel, secretary; Mary Howey, treasurer.

The new secretary of the **Albuquerque, (N. M.) Branch** of the A.PH.A. is Theodore Ahr, 511—12th St., N.W., Albuquerque, N. M.

The **City of Washington Branch** of the A.PH.A. held a dinner meeting on February 25. Following a short business session, George B. Hutchison presented a paper entitled "Some Aspects of Radioisotope Therapy of Interest to Pharmacists."

Dr. Henry Decker, president of the New Jersey Medical Society, will discuss "The Medical Center of New Jersey" at a joint professional meeting of allied health professions with the **Northern New Jersey Branch** of the AMERICAN PHARMACEUTICAL ASSOCIATION at Rutgers College of Pharmacy on April 7 at 9:00 p.m. Dr. Decker will examine proposals for the establishment of a medical and dental school in New Jersey.

N.N.R.

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American blastomycosis. It is not effective in the treatment of Torula infections.

During or immediately following intravenous injection, many or all of the following symptoms and reactions have been elicited or observed, approximately in the order of decreasing incidence: fall in blood pressure, rapid, thin pulse, facial flushing, dizziness, salivation, sweating, headache, nausea, vomiting, dyspnea, formication, syncope, lethargy, fecal and urinary incontinence, and edema of the eyelids and face. These side reactions are usually transitory and disappear within 10 to 30 minutes. They are less severe with intramuscular injection and slow intravenous drip. In kala-azar, a modified Herxheimer reaction may occur within six hours following the first injection. The occurrence of a unique neuropathic syndrome involving progressive sensory changes in the distribution of the trigeminal nerve is a late toxic manifestation atrributed to stilbamidine. Two to five months after a course of therapy, patients may gradually observe paresthesia, anesthesia, hypalgesia, and numbness (usually confined to the face). Sensibility to light touch is decreased, but usually pain, temperature, and pressure sense remain intact. The same findings may apply to the neck and waist. The incidence of occurrence of these late neuropathic effects is considered to be above 50%. The symptoms often disappear slowly, but they may persist indefinitely. The neurotoxic effects of the drug have been sufficiently troublesome to influence physicians against using it for treatment of trypanosomiasis and leishmaniasis.

Freshly prepared solutions of the drug administered in therapeutic doses have not been associated with hepatic or renal injuries, which formerly occurred following the use of ready-made solutions exposed to ultraviolet light. However, both hepatic and renal function should be determined prior to therapy as stilbamidine is contraindicated in hepatic or renal dysfunction. Partial deterioration of the drug is produced by the action of ultraviolet light on the unsaturated stilbene linkage. Solutions exposed to heat or light contain toxic deterioration products, but such deterioration does not occur when the drug is stored in dry form away from heat and light. Freshly prepared solutions should be similarly protected. Following injection, patients should be warned against excessive exposure to sunlight on the premise that stilbamidine remaining in the skin may be altered and the toxic products thus formed may initiate selective nerve injury.

Dosage.—Stilbamidine isethionate is administered intravenously by continuous, slow drip. A freshly prepared solution of the dose to be used, dissolved in about 200 cc. of either 5% dextrose in water for injection or isotonic sodium chloride solution, is infused over a period of two hours. Slow infusion is essential to avoid a fall in blood pressure. The solution should be protected from light by covering the container with black paper or a heavy towel.

The suggested average adult dose is 150 mg., repeated every 24 to 48 hours for a course of about 15 injections. It is advisable to initiate therapy with a 50-mg. dose, increasing this to 100 mg. for the second dose, and to 150 mg. for the third dose. It is suggested that the patient be placed on a low protein, low purine-type diet, which is thought to avoid certain antidimidine effects of proteins high in arginine. The dosage and frequency of administration of the drug should be altered when necessary to meet the requirements of the individual patient. The physician should become familiar with the reactions and side effects expected from the use of stilbamidine.

Tests and Standards—

Physical Properties: Stilbamidine isethionate is a white, odorless, crystalline powder that slowly darkens on heating above 250° and melts with decomposition at 325–335°. It is freely soluble in water and practically insoluble in ether. The amount which dissolves in alcohol to form 100 ml. of solution is about 0.3 Gm. Stilbamidine isethionate is stable in air, but is decomposed by light. The *p*H of a 1% solution is 5.0–7.0.

Powder.—The powder responds to the identity tests and assay for the active ingredient in the monograph for stilbamidine isethionate.

[For more information regarding this monograph see *J. Am. Med. Assoc.*, **153**, 1174 (Nov. 28, 1953).]

The Wm. S. Merrell Company, Cincinnati.

Powder Stilbamidine Isethionate: 150-mg. ampuls.

NEW GENERIC AND BRAND NAMES RECOGNIZED BY THE A.M.A. COUNCIL ON PHARMACY AND CHEMISTRY

ABSORBABLE GELATIN FILM for an absorbable, water-insoluble, nonhemostatic, nonporous, transparent gelatin-base film: Gelfilm (The Upjohn Company)

ALPHAPRODINE HYDROCHLORIDE for *dl*-alpha-1,3-dimethyl-4-phenyl-4-propionoxypiperidine hydrochloride: Nisentil Hydrochloride (Hoffmann-LaRoche, Inc.)

BACITRACIN-NEOMYCIN for a mixture of bacitracin and neomycin sulfate: Bacimycin (Walker Laboratories, Inc.)

BENOXINATE HYDROCHLORIDE for 2-diethylaminoethyl 4-amino-3-*n*-butoxybenzoate hydrochloride: Dorsacaine Hydrochloride (Smith-Dorsey, Division of The Wander Company)

CYCLOPENTOLATE HYDROCHLORIDE for β-dimethylaminoethyl (1-hydroxycyclopentyl)phenylacetate hydrochloride: Cyclogyl Hydrochloride (Schieffelin & Company)

FRUCTOSE for D-fructose: Levugen (Mead Johnson & Company)

FURAZOLIDONE for N-(5-nitro-2-furfurylidene)-3-amino-2-oxazolidone: Furoxone (Eaton Laboratories, Inc.)

GLYCOBIARSOL to replace BISMUTH GLYCOLYLARSANILATE: Milibis (Winthrop-Stearns, Inc.)

MEPIPERPHENIDOL BROMIDE for 1-(3-hydroxy-5-methyl-4-phenylhexyl)-1-methylpiperidinium bromide: Darstine Bromide (Sharp & Dohme, Division of Merck & Co., Inc.)

METHYLERGONOVINE TARTRATE for *d*-lysergic acid-(+)-butanolomide-(2) tartrate: Methergine Tartrate (Sandoz Pharmaceuticals)

PIPERPHENIDOL HYDROCHLORIDE for 5-methyl-4-phenyl-1-(1-piperidyl)-3-hexanol hydrochloride: Reltine Hydrochloride (Sharp & Dohme, Division of Merck & Co., Inc.)

BRIEFLY NOTED

COLLEGES

The Women's Club of **Columbia University** College of Pharmacy has scheduled its annual Benefit Luncheon, Bridge and Fashion Show for Thursday, April 1, at the Waldorf-Astoria in New York. Funds raised will be contributed to the Development Program of the 125-year old College of Pharmacy. At last year's Benefit the women's organization raised over $4,500 for this purpose.

Dean W. D. Strother of the School of Pharmacy, **Southwestern State College,** attended a meeting of the Midwestern Conference on January 16 and 17 in Albuquerque, New Mexico. The members of this conference were composed of deans of pharmacy, officers of state pharmaceutical associations, and members of state boards of pharmacy from several midwestern states.

Southwestern State College School of Pharmacy was cosponsor of a college assembly program January 13, honoring the 50th Golden Anniversary of the School. The featured speaker was Dr. C. D. Kochakian of the Oklahoma Medical Research Institute in Oklahoma City.

The Chemistry Department at **Southwestern State College** is offering a new course in the Chemistry of Photography. Instructor for the course will be Mr. Earl Reynolds.

John Little, A.PH.A. branch president at Southwestern, was selected College Rotarian of the Month by the Weatherford Rotary Club for the month of January.

John A. Yuskaitis has been elected royal chancellor of the **Rutgers University** College of Pharmacy chapter of *Delta Sigma Theta* fraternity. Other newly named officers of the student group at the New Jersey State University College of Pharmacy are Richard Doerer, royal vice chancellor; Howard Kronick, corresponding scribe; Robert Kirpitch, recording scribe; Mortimer Mills, treasurer; Harvey Rappaport, historian; and Earl Seugling, sentinel.

Patricia Dyess of Petal, Miss., a senior in the School of Pharmacy at the **University of Mississippi,** had her name inscribed on the *Kappa Psi* Award Plaque as the junior with the highest scholastic standing in the School of Pharmacy for the 1952–1953 session.

Dr. William D. Easterly has become assistant professor in pharmacy at the university and will teach the course in "Dispensing Pharmacy" during the second semester.

The Pharmaceutical Foundation, **University of Texas,** announced the renewal of an annual grant of $20,000 for the period ending June 30, 1956, for a cooperative study of toxic plants and their isolates by the College of Pharmacy and the Biochemical Institute by the Benjamin Clayton Foundation for Research. Directors of the project are Dean Henry M. Burlage of the College of Pharmacy and Dr. Alfred Taylor of the Biochemical Institute.

Also announced was the renewal of a $2,000 Research Fellowship in Pharmacy for 1954 by the S. E. Massengill Co. of Bristol, Tenn.

"Public Relations for Pharmacy" is the theme of the Fourth Annual Seminar announced by the **University of Oklahoma** College of Pharmacy. The meeting will be held in Norman, Okla., March 10.

Ivan W. Rowland, associate professor of pharmaceutical chemistry at the College of Pharmacy of **Idaho State College,** has been elected grand president of *Phi Delta Chi.*

Formal installation of newly elected officers of the Alpha Zeta Chapter of *Phi Delta Chi* Fraternity at **Idaho State College** took place on January 11. George Green was elected president; Charles Brown, vice-president; Ned Kikuchi, secretary; and Russell Hansen, treasurer.

Dr. Robert P. Fischelis, secretary of the A.PH.A., will speak on "Trends in Pharmacy" at the **Butler University** College of Pharmacy's *Golden Anniversary Seminar,* to be held this spring.

Dr. Martin Barr, associate professor of pharmacy, Philadelphia College of Pharmacy and Science, will be seminar lecturer March 17 at **Rutgers University** College of Pharmacy on "Newer Pharmaceutical Techniques." Lecturer at the March 24 seminar will be Prof. Seymour Jeffries, whose subject will be "Professional Economics of Retail Pharmacy." Prof. Jeffries is chairman of the Business Administration Department of **Brooklyn College of Pharmacy.**

The Chemistry Achievement Award, given by the Chemical Rubber Company of Cleveland, Ohio, has been won by Kenneth Scott of the **Howard University (Wash., D. C.)** College of Pharmacy for having maintained the highest average in inorganic pharmaceutical chemistry. The award was a copy of the thirty-fifth edition of "The Handbook of Chemistry and Physics."

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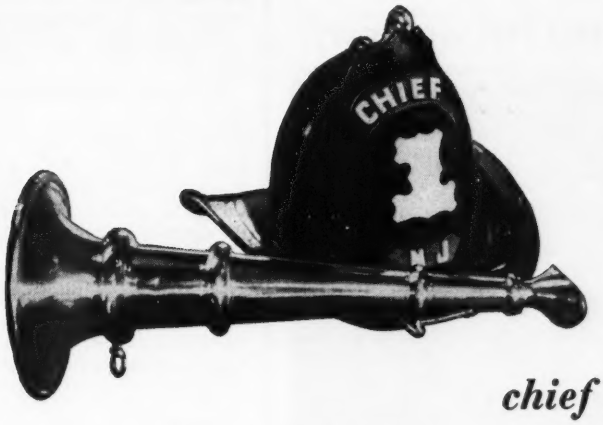

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Briefly Noted

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Dr. Selman A. Waksman, 1952 Nobel Prize Winner in Medicine for the discovery of streptomycin, and Dr. Benjamin Duggar, the discoverer of Aureomycin, will be two of the principal speakers at the Public Health Forum to be held at the Brooklyn College of Pharmacy, **Long Island University,** on the nights of April 6, April 13, and May 4.

The Alpha Upsilon Chapter of *Rho Chi,* **Idaho State College of Pharmacy,** held its bi-monthly dinner meeting on February 1 in Pocatello, Idaho. Idaho State Board of Pharmacy members and the January pharmacy graduates were the honored guests.

ASSOCIATIONS

A recent New Jersey court decision having had the effect of opening the sale of certain medicines to nonprofessional outlets, the **New Jersey Pharmaceutical Association** has undertaken an educational campaign to protect the public from possible misuse of drugs. The Association has prepared and made available to the 1800 New Jersey pharmacies a million leaflets for distribution to the public designed to inform the consumer of the potential dangers in purchasing drugs and medicines in nonprofessional outlets.

A general membership meeting of the **Washington, D. C., Pharmaceutical Association** was held January 28 at Brook Farm Restaurant, Chevy Chase, Md.

The annual convention of the **American Drug Manufacturers' Association** will be held at the Lake Placid Club, Lake Placid, N. Y., June 28 to July 1, 1954. The **American Pharmaceutical Manufacturers' Association** will be holding their annual meeting at the Boca Raton Club, Boca Raton, Fla., March 29 through 31, 1954.

The **Parenteral Drug Association** plans to hold its annual meeting in New York on October 27–29, 1954. The meeting will also feature an exhibit of new equipment and supplies for the parenteral drug industry. Arthur D. Herrick will serve as general chairman of the three-day session.

John K. Worley of Detroit has been elected General Counsel of the **American Drug Manufacturers Association** He will succeed Leslie D. Harrop in that position on July 1, 1954, at the close of the 1954 Annual Meeting at Lake Placid, N. Y.

The meeting of the **Oklahoma Society of Hospital Pharmacists** was held at St. Anthony's Hospital, Oklahoma City, on Wednesday, January 2. Bob Reynolds, a graduate of Southwestern State College of Pharmacy, now chief pharmacist at St. Mary's Hospital in Enid, Oklahoma, spoke on the subject

"Problems in Hospital Pharmacy." Dr. Charles Schwartz of Southwestern State College faculty spoke on "Distribution of Information in the Hospital."

MANUFACTURERS

In what is believed to be the first prescription product suit under the Fair Trade Acts, **Hoffman-La Roche Inc.** has filed a contempt of court action against Schwegmann Bros. Giant Super Markets of Louisiana. On May 15, 1953, Hoffman-La Roche Inc. secured a final judgment of injunction against Schwegmann in the Federal Courts. Recently, the super market advertised certain of the plaintiff's prescription products at less than their fair trade prices.

Hoffman-La Roche Inc. will ask that appropriate fines and damages be charged against Schwegmann.

Due to improvements in production methods, a reduction in price of water-soluble chlorophyll from $60 to $45 the pound has been announced by the American Chlorophyll Division of **Strong, Cobb and Company, Inc.** The grade affected is W. C. M. sodium potassium copper chlorophyllin on a 100% basis.

Investigation into the etiology and treatment of psoriasis is being furthered through a series of grants by the **A. H. Robins Co., Inc.,** of Richmond, Va., to Dr. Carl T. Nelson, College of Physicians and Surgeons, Columbia University, N. Y.

A current study, according to Dr. William R. Bond, director of clinical research for the Robins Company, deals with the possible relationship between disorders associated with changes in the blood lipid pattern and protein utilization.

Henry M. Lee, Ph.D., has been promoted to the post of research associate with **Eli Lilly and Company.**

A member of the Lilly Pharmacology Division since 1934, Dr. Lee is a member of the Society of Sigma Xi, American Association for the Advancement of Science, New York Academy of Science, Society for Experimental Biology and Medicine, and the American Society for Pharmacology and Experimental Therapeutics.

Elsie Riccardi and Lyman A. Stockman were recently appointed assistant advertising managers of **Organon, Inc.,** Orange, N. J.

AT RANDOM

The National Science Foundation has announced 100 grants totaling about $1,045,000 for research in the biological and the physical sciences, and to support studies and conferences on science, scientific information exchange, compilation of scientific personnel information, education in the sciences, and travel of American scientists to international scientific meetings.

(Continued on page 192)

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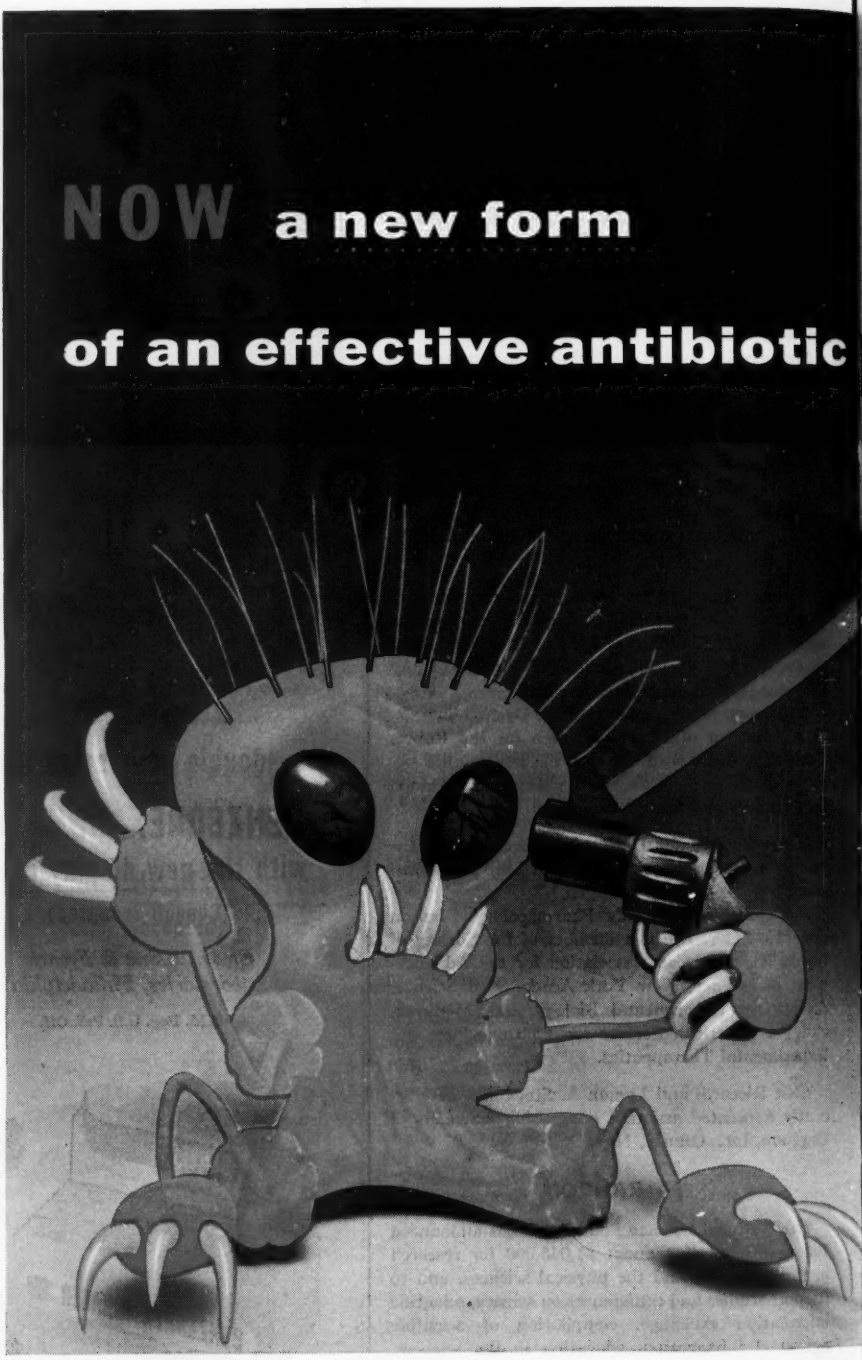
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Dr. Leonard A. Scheele, surgeon general of the Public Health Service, U. S. Department of Health, Education, and Welfare, has announced the appointment of **Dr. William F. Windle** as chief of the Laboratory of Neuroanatomical Sciences of the National Institute of Neurological Diseases and Blindness.

Vernon O. Trygstad has replaced E. Burns Geiger as Director of Pharmacy Service in the **Veterans Administration**.

Dr. Bernard L. Horecker of the National Institute of Arthritis and Metabolic Diseases, Bethesda, Md., one of the nation's leading authorities on the chemistry of enzymes, has won the 1954 Hillebrand Award of the American Chemical Society's Washington, D. C., Section.

Dr. Frank B. Brewer, medical official with the Veterans Administration and its predecessor agencies since 1921, has been named assistant chief medical director in charge of operations for VA's 171 hospitals and domiciliaries, and 104 clinics.

James Francis Kelly, formerly director of the Budget Branch of the Public Housing Administration, has been named Budget Officer of the Department of Health, Education, and Welfare. He succeeded Marion A. Stephens who retired from government service March 1.

David N. Ditchek, A.PH.A. member, was honored by the Independent Pharmacists' Association at a dinner on February 28 upon the completion of twenty years of service to that organization. Mr. Ditchek's publications on health insurance and professional relations have appeared in pharmaceutical journals from time to time, and he has been the editor of the *I.P.A. Voice*, founded in 1934.

Heinz and Merrick Honored

John B Heinz of Salt Lake City, Utah, and **James B. Merrick,** of Ardmore, Pa., were awarded honorary degrees of *Master of Pharmacy* by the Philadelphia College of Pharmacy and Science at the *Founders' Day* ceremonies there February 25.

Mr. Heinz, past-president of the American College of Apothecarics, is first vice-president-elect of the AMERICAN PHARMACEUTICAL ASSOCIATION. A.PH.A. member Merrick is a director of the Alumni Association of the Philadelphia College.

Man of the Year

F. Royce Franzoni, president of the AMERICAN PHARMACEUTICAL ASSOCIATION, was honored by *Alpha Zeta Omega*, pharmaceutical fraternity, as *Pharmacy's Man of the Year* on February 21, 1954, in New York.

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